THE MODERN SCHOOLMAN

A Quarterly Journal of Philosophy

XXIV MARCH, 1947 No. 3

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THE UNITY OF THE ORGANISM
W. R. THOMPSON, F.R.S.

LITERATURE AND THE FORMATION OF CHARACTER
HAROLD B. JAFFEE

NOTES AND DISCUSSION

BOOK REVIEWS

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THE UNITY OF THE ORGANISM

INTRODUCTION

The Aristotelian-Thomist philosophy, says Dom Joseph Gredt,[1] is a deductive development of the doctrine of potentiality and act. But this philosophy is fundamentally realist[2] and holds that everything that is in the mind comes to it from without, through the gateway of the senses. It follows that the concepts of potentiality and act must be derived from the real world and from things and events that are observable. This is true. But a little reflection shows that *potentiality* and *act* refer to a generalization of what we originally discover in nature and thus transcend nature: for which reason they are called *metaphysical principles.* We discover them in the world as *physical principles,* so-called because they are, in a sense, the fundamental constituents of physical or material things. These *physical principles* of corporeal things we call *matter* and *form.* We first apprehend the world as a *confusion.*[3] More intimate acquaintance shows it to be made up of things that are more or less permanent and definable; yet it becomes clear also that these things come to be and pass away. We infer from this that in every material thing there is a principle of permanence or being and a principle of nonpermanence or nonbeing. These principles we call form and matter.

The thesis that material beings are composed of matter and form is therefore basic to Thomist philosophy. As Father Sertillanges[4] warns us, it cannot be removed from the system like a worm-eaten post. To

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1 *Elementa Philosophiae Aristotelico-Thomisticae* (7th ed.; Freiburg im Breisgau: Herder, 1937), I, 3.

2 Cf. E. Gilson, *Réalisme thomiste et critique de la connaissance* (Paris: J. Vrin, 1939).

3 Aristotle *Physics* i. 184a 22-25 (*The Basic Works of Aristotle* [New York: Random House, 1939], p. 218).

4 *S. Thomas d'Aquin* (3rd ed.; Paris: Alcan, 1922), II, 7-8.

most moderns it is unfamiliar and, when encountered, unintelligible but it is essential.

In the introduction to his illuminating analysis of Freudian psychology Professor Mortimer Adler[5] suggests that philosophy can be distinguished from science by the fact that its propositions are based on *general experience,* while those of science emerge from *special experience.* We suspect that this distinction does not go to the root of the matter and would not be entirely reliable in practice. Nevertheless, it is certainly true that the fundamental principles of sound philosophy must be everywhere accessible and, in a sense, within easy reach. The consideration of very special and peculiar cases, with respect to their peculiarities is hardly likely to lead to the discovery of general rules.

We are therefore not guilty of "wishful thinking" when we say that the philosophical doctrine of matter and forms is not likely to be affected by scientific research. That its public status and repute has been profoundly affected by science, there is, however, no doubt, as Professor Adler himself discovered when he attempted to convert the psychoanalysts to Thomism.[6] The scientific analysis of material things carried out during the last two centuries has practically driven the philosophical analysis from the field. The success of scientific analysis is partly due to its impressive and practically valuable results; but it is not unconnected with the fact that the methodological atomism of scientific research has its natural prolongation in philosophical atomism, which, though ancient rather than respectable, has always been very attractive to the student of nature.

No one could expect modern Thomists to be unaffected by these developments. Many are sincerely convinced that unless an organic connection can be established between philosophy and the doctrines of modern science, philosophy is condemned to extinction. It is clear that no effective efforts toward reconciliation will be made by the scientists. The problem has therefore fallen to the philosophers. Generally speaking they have tried to solve it by interpreting the doctrine of matter and form in accordance with scientific atomism. The most ambitious attempt made in this sense is probably that represented by the *Essai critique sur l'hylémorphisme,*[7] published by the distinguished Jesuit philosopher Father Pedro Descoqs. The combination of scientific erudition and philosophical subtlety displayed by the author gives to this work a very remarkable character. There is probably nothing quite comparable to it in the literature of the subject. Father Descoqs made a most deter-

[5] *What Man Has Made of Man* (New York: Longmans, 1937).

[6] *Ibid.*

[7] *Essai critique sur l'hylémorphisme* (Paris: Beauchesne, 1924).

mined effort to effect a junction between Thomism and modern science; and he was convinced that he had achieved his object.

Father Descoqs's *Essai* was written, he tells us, as a result of a controversy. Early in 1920, in a review of the *Cours de philosophie* of Father Lahr, published by the *Revue de philosophie*, he expressed the opinion that the argument from substantial mutations is not sufficient to establish, in a really decisive manner, the theory of matter and form. This statement did not pass unnoticed. In November of the same year and in the same journal, it was strongly criticised by another French philosopher, the Abbé Gossard, who asserted that if the argument from substantial mutations is discarded, the Thomist philosophy of nature will come down in ruins. The editors of the *Revue de philosophie* seemed inclined to agree with the Abbé Gossard. In answer to the attack, Father Descoqs prepared for the *Revue de philosophie* six massive articles which appeared during the period extending from September, 1921, to July, 1922.[8] These articles formed the basis of his book. During the course of publication the Abbé Gossard returned to the attack and some discussions on the subject took place between him and partisans of Father Descoqs (notably Father Voisine, S.J.) at meetings of the Société Philosophique de St. Thomas d'Aquin in Paris.

About the same time the present writer, who was then working in the south of France, became interested in this matter. Dissatisfied by what he considered to be the unduly atomistic character of Father Descoqs's explanations, particularly in regard to the living organism, he wrote to the distinguished philosopher, offering certain objections. To this letter, though he received it, Father Descoqs did not reply. The writer then sent in his question to the Société de Philosophie, where it was answered by Father Voisine, but in such a manner that, in the opinion of the writer, the objections were left standing.

Some time before this episode, the writer, through the good offices of Professor Jacques Maritain, had established relations with the Dominican Fathers of the ancient College of St. Maximin, among whom he made many friends. He put his objections before them and with their encouragement prepared a detailed answer to Father Descoqs's contentions in so far as they touched on questions of biology. This article was published by the *Revue thomiste* in the summer of 1923, accompanied by an unsigned appendix on the special question of the artificial production of living forms, which was, in fact, prepared by the Reverend M. Cathalà, well known for his edition of the commentary of St. Thomas on the *Metaphysics* of Aristotle.

[8] "La Théorie de la matière et de la forme et ses fondements," *Revue de philosophie* (Paris: Marcel Riviére), 1921, pp. 480 ff., 603 ff.; 1922, pp. 61 ff., pp. 181 ff., 259 ff., 384 ff.

To this article Father Descoqs did not reply until his articles were issued (in 1924) in book form. He then inserted an appendix containing his answer. Of this it will be sufficient to say that the objections of the present writer were rejected *in toto,* without amenity, and that to judge from this incident, the arguments of a scientific worker attempting to defend the orthodox Thomist positions were regarded by Father Descoqs with much less benevolence than attacks by scientific workers on these positions.

Owing to various circumstances, it was some years before the writer discovered that Father Descoqs had replied to his criticisms. He was then occupied by other work and shortly afterward moved to England where his technical duties left little time for philosophical studies. Nevertheless, repeated examinations of the *Essai* have not altered his conviction that the author's fundamental theses are unsound and that the arguments opposed to them are fundamentally valid. He feels therefore that he need not apologize for returning to this important matter. Twenty years certainly seems a long interval between the argument and the answer; but seen against the background of a controversy that has endured for twenty centuries it is inconsiderable. It may be added that the scientific position has undergone certain changes, with the result that some interpretations elaborated by philosophers have lost their factual foundations.

In order to simplify the discussion, it will be best to state the theses and antitheses as accurately as possible.

THE THOMIST DOCTRINE OF MATTER AND FORM

For the classical Thomist doctrine, we may refer in the first instance to the twenty-four Thomist theses issued in 1914 by the Sacred Congregation of Studies.

The fundamental thesis of natural philosophy is Number 8, which runs as follows: "The corporeal creature is in its essence composed of potency and act; this potency and this act in the order of essence are called matter and form respectively."[9] A supplementary explanation is given in Number 9, which states: "Neither of these parts has existence by itself, nor is either properly speaking produced or corrupted or placed in a predicament except reductively as a substantial principle."[10]

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[9] "Creatura vero corporalis est quoad ipsam essentiam composita potentia et actu; quae potentia et actus ordinis essentiae materiae et formae nominibus designantur." Cf. G. Mattiussi, *Les Pointes fondamenteaux de la philosophie thomiste, Commentaire des vingtquatre thèses,* trans. from the Italian by J. Levillain (Turin-Rome: Marietti, 1926), p. 79.

[10] "Earum partium neutra per se esse habet, nec per se producitur vel corrumpitur, nec ponitur in praedicamento nisi reductive ut principium substantiale." Cf. *ibid.*

Among the specifically "biological" theses it will be convenient to cite three. The first is Number 13: "Corporeal beings are of two kinds: for some possess life; others lack it. In the living ones, in order that there may properly be active and passive parts in the same subject, the substantial form, called the soul, requires an organic disposition or heterogeneous parts."[11] The second is Number 14: "The souls of the vegetable and sense orders by no means have existence by themselves, nor are they properly the object of production; but they are merely the principle by which the living being possesses existence and life; and, since they depend entirely upon matter, they are corrupted accidentally when the compound is corrupted."[12] The third and most important, in so far as the present controversy is concerned, is Number 16: "The same rational soul is united to the body as its single substantial form; and by this soul man is constituted as man and animal and body and substance and being. Therefore the soul gives man every grade of essential perfection; over and above that, it communicates to the body the act of existence by which it itself exists."[13]

These theses do not cover all the points involved in the present discussion. Moreover, they are merely *theses,* not dogmas; nor are they accompanied by demonstrations. Substantial mutations are not mentioned; but since, according to Thesis 13, there are two categories of bodies, living and nonliving, we may infer that they occur. Otherwise the living and the nonliving would constitute two autonomous and independent worlds, which is clearly not so; or else the difference between the categories would be only apparent, not real: a proposition which need not be examined since it is rejected by both parties in the present argument. Nevertheless, an agreement that "substantial mutations" occur means little, unless the sense of this expression has been accurately defined. The orthodox Thomist thesis is that in a "substantial mutation," when the disintegration of old substances gives rise to new substances, there is a resolution *usque ad materiam primam,* so that neither substantial nor accidental forms remain. The basic

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11 "Corpora dividuntur bifariam: quaedem enim sunt viventia, quaedam expertia vitae. In viventibus, ut in eodem subjecto pars movens et pars mota per se habeantur, forma substantialis, animae nomine designata, requirit organicam dispositionem, seu partes heterogeneas." Cf. *ibid.,* p. 129.

12 "Vegetalis et sensilis ordinis animae nequaquam per se subsistunt, nec per se producuntur, sed sunt tantummodo ut principium quo vivens est et vivit, et, cum a materia se totis dependeant, corrupto composito, eo ipso per accidens corrumpuntur." Cf. *ibid.*

13 "Eadem anima rationalis ita unitur corpori ut sit ejusdem forma substantialis unica, et per ipsam habet homo ut sit homo et animal et vivens et corpus et substantia et ens. Tribuit igitur anima homini omnem gradum perfectionis essentialem; insuper communicat corpori actum essendi, quo ipsa est." Cf. *ibid.,* p. 151.

argument in favor of this thesis is that since there can be only a single substantial form in any composite of primary matter and substantial form, no substantial form will persist through a substantial mutation. From this it follows that no accidental forms can persist, since an accidental form is simply an accident which derives its being from the substance; and the substantial form is, in its order, *the principle of substantial being.* Thus in a substantial change, matter is denuded of all forms, not of course in the sense that it can ever exist in a formless state, but in the sense that all the old forms are replaced by new forms; their disappearance and replacement constitute an indivisible event. It is clear that the entity susceptible of this *complete* denudation cannot possess any positive properties: it is, therefore, *pure potentiality,* in other words, *pure determinability.* It does not seem necessary, at this stage, to add anything to this statement of the Thomist position; so we may pass to the consideration of the objections formulated by Father Descoqs.

THE OBJECTIONS OF FATHER DESCOQS

It should be noted that, in Father Descoqs's opinion,[14] such occurrences as the combination of oxygen and hydrogen to form water and the assimilation of food by animals seem sufficient to establish objectively, in a completely effective manner, the *general* notions of matter and form; but he feels with Suarez that the nature of the subject and of the form received in it remain conjectural. The fundamental difficulty is to decide whether the subject is a totally undetermined matter or rather (and more probably) an elementary substance already determined in itself (molecule, atom, ion, electron, magneton, and so on) which the unique substantial form of the compound informs by *subsuming* it.[15] In other words, is the ultimate subject of substantial mutation *primary or second* matter? For enlightenment on this difficult question, Father Descoqs appeals to the scientists and to philosophers with scientific training and outlook.[16] He divides his survey into two sections, of which the first deals with what he calls "inorganic compounds" and the second, with living organisms.[17] This slightly confusing terminology is due to the fact that Father Descoqs uses the word *inorganic* as a synonym of *nonliving,* and *organic* as a synonym of *living;* whereas strict scientific usage reserves the word *organic* for the compounds of carbon, and *inorganic* for other compounds. We shall here use the terms *living* and *nonliving.*

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[14] *Essai,* pp. 24-26.

[15] *Ibid.,* p. 31.

[16] *Ibid.,* p. 35.

[17] *Ibid.,* p. 33.

In introducing his conscientious compilation of scientific opinions on the concept of substantial mutation, Father Descoqs remarks[18] that two fundamental questions are involved: the persistence of the chemical elements in the compound; and the radical unity of matter. Many of our contemporaries, he says, consider these propositions as established truths, which flatly contradict the theory of substantial mutations; thus, if we are led to conclude that these hypotheses are at least probable (*vraisemblables*) and that they can neither be taxed with absurdity nor eliminated, "our object will have been attained." In fact, if we have understood Father Descoqs correctly, the second proposition means that the different compounds and elements are merely accidental modes of one and the same material substratum which is identical in all but which has nothing to do with the *materia prima* of the Thomists, since it has positive properties; the first proposition means that the elements in the compound do not differ in themselves from the elements in isolation. Thus there are no substantial mutations in the Thomist sense; and therefore the argument for the doctrine of matter and form cannot be based on their existence. It may be noted that the first proposition suggests for the elements an entitative status which the second proposition denies, supposing, that is, that it refers to chemical elements of the periodic table. However this may be, after his survey of the scientific evidence, Father Descoqs came to the conclusion[19] that in the present state of science neither the reality of the "mixed" in the sense of the ancients, nor the strict unicity of substantial form in the living organism excludes the possibility of the information by a higher form, of elements already determined, which would constitute its *matter;* consequently, substantial mutations in the Scholastic sense are not immediately given either data (*données immediates*) or *certain* conclusions on which a hylomorphic theory having the status of a *certainty* can be based. The alleged facts on which the theory is commonly based may appear in the near future on a level with such conceptions as the horror of the vacuum, the natural places of material objects, or the incorruptibility of the celestial bodies. Father Descoqs therefore considered it necessary to develop more solid proofs of the theory of matter and form and believed that he had succeeded in establishing it on foundations that cannot be weakened by scientific discoveries.

Father Descoqs observes that Thomist philosophers are, in many cases, far too much inclined to interpret the casual remarks of scientists in accordance with Aristotelian principles,[20] forgetting that the positivist

[18] *Ibid.*, p. 35.

[19] *Ibid.*, p. 118.

[20] *Ibid.*, p. 62.

viewpoint, so characteristic of modern scientific thought, forbids su optimistic translations. There is some truth in this contention, thou if, as Henri Bergson[21] admitted, Aristotelian philosophy remains ' metaphysique naturelle de l'intelligence humaine," these involuntary co cessions may be the signs of a deep-seated and almost subconscio agreement.

But a rather similar criticism may be directed against Father Descoq own method, which is to let scientists and philosophers of scienti temperament "speak for themselves."[22]

It might seem that nothing could be fairer. The difficulty is, howev that the scientists cited have, in general, as is clear from their remar no real conception of the philosophical position, nor of the true stat of philosophy; and this applies also to the scientific philosophers whom he appeals. These are, in general, as might be expected, accu tomed to accept the prevalent scientific view at its face value. anxious is he, apparently, to collect scientific testimony adverse to t classical Aristotelian arguments, that he takes no account of the an philosophical bias inherent in the positivist viewpoint.

Little would be gained by a detailed examination of the scienti opinions laboriously compiled by Father Descoqs. It must surely obvious that the typical explanatory method of science is essentia refractory to such concepts as substantial mutations; and that it mak little difference whether this is defined according to St. Thomas or Albert. Like philosophy, science aims at unification. But the explan tory unification of science is attempted by the reduction of the multi to an aggregate of elementary units which constitute it *as units;* a these units are observable entities: if not actually observable, at le theoretically observable. Thus the scientific view of the molecule is th it is an aggregate of atoms, and of the cell, that it is an aggregate molecules; the scientific view is that hereditary characteristics are det mined by an aggregate of genes; that "vital" processes are aggrega of physicochemical reactions, "sensory" activity an aggregate of veg tative processes, and "intelligence" an aggregative complex of senso activities. The various "orders" or "levels" which we have just me tioned, are not, however, formal unities as in the theory of Fath Descoqs. Such concepts are foreign to scientific explanation. They merely provisional entities, as yet unanalyzed but theoretically capa of reduction into the ultimate observable elements. It is sufficient attend a lesson in the elements of chemistry or to glance at a textbo to realize that the scientific explanation presents the molecule of wa

[21] *L'Evolution créatrice* (18th ed.; Paris: Alcan, 1914), p. 352.

[22] *Essai,* p. 119.

as an agglomerate of atoms of hydrogen and oxygen which continue to exist in it as such. It is therefore to be expected that any heterogeneity in a compound, particularly a distinction of properties which recalls that existing between the combining elements, will be interpreted in this sense.

It must, of course, be recognized that the tremendously successful development of modern chemistry and physics is based on the assumptions involved in the atomic theory; and it may be asked whether a more exact and comprehensive verification of any theory is conceivable. We do not wish to minimize the force of this argument, though we think it leads inevitably to philosophical atomism. But the question is what, exactly, *are* the assumptions involved in *scientific* atomism as the methodological basis for chemistry and physics; and to what extent, exactly, do the experimental results obtained in these sciences really verify and demonstrate such theses as the subsistence of the atoms of elements in the chemical compound and in the organism?

This problem requires a much more detailed study than it is possible to give here. We can, however, indicate several important points bearing on it.

The first point is connected with the fact that both physics and chemistry aspire to the status of exact sciences, by which we mean sciences which describe their objects in quantitative terms. Quantity is an order of parts. These parts constitute a unit which can be completely described as a multiple of any part: this description being what we call measurement. Different quantities can be *added together:* add two lengths of one inch and we get one length of two inches. But we cannot add qualities: add blue, red, and yellow and we get either a *plurality* or a *multitude* of different colors or a *mixture,* which is different from any of the component colors. To treat colors scientifically, we must use the methods of spectroscopic analysis, which enable us to describe them in terms of wave lengths, which are quantitative values. Similarly, the results of chemical combination are not described scientifically until they are expressed in quantitative terms. Chemistry did not begin to exist as a science until Lavoisier demonstrated that, in a given compound, the elements always combine in the same proportions by weight. Father Descoqs appears to imagine[23] that the possibility of predicting the results of chemical reactions by means of mathematical formulae in which the variables correspond to certain properties of the elements — such as temperature coefficients, specific heats, and so on — practically forces us to discard the idea of substantial mutations in the inorganic world and the existence of specific differences in the Scholastic sense. But

[23] *Ibid.,* pp. 62-63.

all that this really implies is that the values of the quantitative attribu of material things, which are the only properties that are *mensurable*, *additive:* which is necessarily true of quantitative properties, thou there are few cases in which we can discover the properties of compou by simple addition of the properties of the elements.

The second point is that the study of the ultramicroscopic str ture of matter — molecules, atoms, "corporundals" — cannot yet classed as an *observational science.* An oak tree, a bacterium, a crys of rock salt, a lump of copper, even an inert gas, can be directly observ All are, in their several ways, objects of direct sensory apprehensi This gives the study of these things a certainty to which work on ult microscopic entities has not attained and perhaps never will. We can *see* or *handle* the molecules or atoms of bodies *in situ* in these bodi We may think (as many currently do) of the atoms of lead and sulph in lead sulphide as having the same entitative status and relation lumps of lead and sulphur lying side by side on a table; but this is an idea that is given in direct sensory experience.

A third and very important point which is much clearer now th it was at the time Father Descoqs wrote his *Essai,* is that the pictor representations of atomic structure have lost their objective val Modern mathematical physics, says Sir Edmund Whittaker,[24] asse that the constituents of the atom — the *corporundals,* as they are n called — have "no permanent existence, no shape, and no locatio and "cannot be pictured in intuition." What becomes of the at and of the molecule, since it is composed only of corporundals? do not think this difficulty is insoluble but there is no doubt that chemi of the first rank have regarded it as serious and disturbing, precis because it seems to undermine the value of their pictorial representati of the structure of matter. Professor Herbert Dingle[25] has descri as a "serious disease of science" the introduction into physics a chemistry of particles "regarded as physical objects and classif together with the physical objects of experience." It seems t Professor Maritain's definition of them[26] as "well-founded myths" "entia rationis cum fundamento in re" is correct and that the scient world is coming to agree with his diagnosis.

The scientific arguments against the Thomist concept of substan mutations that Father Descoqs was able to assemble from writers

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[24] *The Beginning and End of the World* (Riddell Lectures, 1942; Oxf Univ. Press, 1943).

[25] *Through Science to Philosophy* (Oxford: The Clarendon Press, 1937), p.

[26] Cf. *Les Degrés du savoir* (Paris: Desclée de Brouwer, 1932), chap. pp. 318 ff.

biology are not very impressive.[27] He concedes that nutrition implies, in a certain sense, a real substantial mutation; that the living organism has a strict substantial unity; and that the food it takes in undergoes a real substantial corruption: but he refuses to admit that these facts constitute the basis of a general theory of substantial transformation or that they oblige us to admit transformations *usque ad materiam primam*. He suggests[28] that the "physicochemical properties" of living organisms, which, he says, belong to an entirely different kingdom, can hardly be derivatives of a living form, particularly an immaterial form. This argument, of course, simply begs the question at issue in favor of his own thesis. What he calls "physicochemical properties" are simply the *observable properties* of the living body; and to call them "physicochemical" is simply to insinuate that, though they are accidents or *entia entis* of the living body, they are specifically nonliving. He cites a certain author according to whom every parcel of living matter can be specifically designated as coming from such and such a carbon or hydrogen atom,[29] or it possesses the properties of carbon and hydrogen. It is certainly true that a cell is in some sense composed of protein molecules and protein molecules of elementary atoms; but the objective properties of the cell differ from those of any agglomeration of the component atoms, with which, indeed, thousands of complex substances with objective properties entirely different from those of the cell can be produced. Scientists, says Father Descoqs, attest the presence of phosphorus in the brain, iron in blood, and calcium salts in bone.[30] This is true, in a sense; yet it is going far beyond the facts to assert that these elements exist in the body with the status of independent lumps of phosphorus, iron, and calcium carbonate on a table. It is true also that the quantitative properties of the living compound can often be predicted from those of its elemental constituents; but, as has been already said, quantitative properties are essentially additive and, in the sense that $4 = 2 + 2$, retain their identity in any combination. If we compare a mixture of 2 grams of hydrogen and 16 grams of oxygen with 18 grams of the compound water, *merely* in regard to weight, we must say that they are identical. It is clear that all comparisons along these lines will give the same result; but the result has no bearing on the problem of substantial mutations. Moreover, in many cases the quantitative values of the properties of compounds cannot be calculated by simple

[27] *Essai*, chap. iv.

[28] *Ibid.*, p. 85.

[29] *Ibid.*, p. 104.

[30] *Ibid.*, p. 74, quoting Geny, *Gregorianum*, January, 1900, p. 107.

addition or, indeed, by any mathematical process yet discovered. W have no right to go further than scientific efforts have carried us.

The other difficulties raised by Father Descoqs concern the surviva of parts detached from an organism, as in the well-known experiment on tissue culture. In regard to this problem, Father Descoqs incline to the view of Professor L. Boule, S.J.,[31] who suggests that the cells o the organism possess cytodynamic principles which are, in fact, cell-souls When they are in the living organism these are subsumed by the form of the whole; when it departs with death, or the cells are removed fro its influence, they resume their control over vital processes. Fathe Descoqs admitted that an explanation of these facts in accordance wit strict Thomist principles could not be rejected,[32] but he considered tha his own theory explained the facts more simply. We have already give a rough outline of the theory but we must now examine it in greate detail.

On the assumption that the assertions of the scientists cited by Fathe Descoqs can be taken at their face value, but neglecting, for the sake simplicity, the question of subatomic structure and of transitional form we may say that all material things are composed of the two hundre odd elements of the atomic table, together with the isotopes. In th molecule of a compound, the atoms of the elements exist as such wi their characteristic properties; but unification is effected by the molecul form in relation to which the elements with their several forms beha as matter. In the various organs of the cell, such as the cytoplas chloroplasts, nucleoplasm, chromosomes, nucleolus, and so on, th aggregations of protein molecules similarly behave as matter with respe to the cytodynamic form unifying them as a cell. The cells in turn m be considered as unified by the forms of the organs. In the anim body, the vegetative units, whatever they are, are subsumed by t animal soul; while in man, the intellectual soul informs and subsum the purely animal body. The constituents of the various "levels," co sidered in themselves, are atomic, molecular, protoplasmic, cellula "organic," vegetative, or animal; but the collectivity at each level ac as matter to a form of a higher order which subsumes it, gives substantial unity, and directs its functions toward higher ends. Th the living organism is truly living, is not a mere aggregate but a un and nevertheless is composed of inorganic atoms which are objective identical with those of the same species outside the organism. Th theory is designated by Father Descoqs as the "pluriformist"

[31] "Les Conditions anatomiques élémentaires de la vie," *Etudes* (Paris), Année, CXL (1914), 28-54 and 221-40.

[32] *Essai*, p. 376.

"Albertine" theory. St. Albert, he says,[33] was "less rigid, nearer the experimental data" than St. Thomas; and this is why he did not go to the point

> of depriving the elementary forms in the compound of their essential forms. The new, unique, and specific form of the compound, according to him, leaves these forms their native *reality*, although their properties are profoundly altered by it; it unites itself to these same forms; or, rather, it subsumes these elements as act subsumes potentiality, and thus elevates them intrinsically.

It seems impossible to maintain that this theory represents the view of St. Thomas. Father Descoqs himself says[34] that he has not the slightest intention of denying that St. Thomas habitually maintained the immediate formation of *materia prima* in the living organism. However, he adds that in his opinion this is a thesis in *scientific* philosophy, which depends directly on scientific discoveries and is, therefore, always subject to revision in accordance with the results of research. Furthermore, he suggests, on the basis of statements in the opusculum *De Natura Materiae*, that St. Thomas was not irrevocably opposed to the pluriformist view; and devotes a lengthy note[35] to the defense of the authenticity of this work, which appears to be apocryphal.[36]

THOMIST CRITICISMS

We may now summarize briefly the main objections made to the pluriformist thesis of Father Descoqs, beginning with those presented by Father Francois Jansen, S.J., of Louvain, in his review of the *Essai* in the *Revue thomiste*.[37] This reviewer was able to consider the replies of Father Descoqs to the Abbé Gossard and the present writer, and it may be presumed that he was particularly careful to avoid the *ignoratio elenchi* of which they had been accused. His was a statement, rather than a criticism, of the ideas of Father Descoqs, for he held that "chacun, après tout, reste maitre de ses certitudes." For this very reason, it is particularly valuable, since Father Descoqs perpetually complains that he has been misunderstood.

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[33] *Ibid.*, p. 75.

[34] *Ibid.*, p. 86, n. 1.

[35] *Ibid.*, p. 97, n. 2.

[36] "Since certain persons (such as Father Descoqs, 'Essai critique sur l'hylémorphisme,' 1924) obstinately persist," said the *Bulletin thomiste* in 1927 (5e Année, No. 3, p. 97), "for the purposes of their interpretation, in treating as authentic the *De natura materiae* (and also the *De principio individuationis*) it is not inopportune to indicate the reasons based on internal criticism which decisively exclude their attribution to St. Thomas."

"External criticism, as we know, was no less firm (cf. Father P. Mandonnet, 'Les Écrits authentiques de St. Thomas') . . ."

"Let us hope," concludes the *Bulletin*, "that there will be no more talk of this."

[37] *Bulletin thomiste*, 2e Année, July, 1925, No. 4.

According to Father Jansen, "Father Descoqs sees no inconvenienc in maintaining in the living organism the *actual* forms of the compo nents, under the finalistic hegemony of a form raising their activitie to immanence." He opposes this to the Thomist view, for whic "immanent finality and autonomous entelechy are contradictory terms. "Form," for the Thomist, he points out, "is a communication of essenc principle of unity *in the entitative* order; it is *inherent,* not *assistan* for him it is not sufficient for it to be an active principle directing th specific activities of a more or less complex aggregate of substances. "Evidently," concludes Father Jansen, we have "two very differer conceptions of form, one profoundly *ontological,* the other envisaging as a *dynamic principle of union . . . .*" That this interpretation is least partly correct seems certain. Since the function of "information is attached to the unity and activity of the being concerned, says Fathe Descoqs, "a certain dynamism is thereby introduced into the notion form." He says, it is true, that this "dynamism" should not be con fused with "efficiency";[38] but under the circumstances it is difficult to se what else the word "dynamism" can mean.

The Abbé Gossard[39] considered that the pluriformist system, thoug presented by Father Descoqs as noncontradictory, pretends to conciliat the unity of the living thing with the arrival of the elements *unchange* in the organism. "Each form," he maintained, is supposed, in th system, to "bring with it the subsistence and specific determinatio proper to the compound that it actualises." Thus, "the problem to b solved is to make of the chemical element, remaining what it is, a bein living by the operation of a principle which remains *formally foreig* to that element." Under these conditions, said the Abbé Gossard, w have to ask whether, "from two beings — two distinct, independent ind viduals, *remaining what they are* — we can make only one?" And h answers, "Evidently not." Unless there is a transformation *usque a materiam primam,* continues this critic, "one must admit that there in me, after digestion, a vegetable and myself, part of an animal an myself; or, if the adversary admits a substantial transformation of th vegetable or animal food before digestion, we shall say that there in me, in addition to myself, a multiplicity of chemical products"; an "on admettra un moi colonial et sporadique." In short, the Abb Gossard maintained that the proposition defended by Father Descoq is contradictory and therefore invalid.

The present writer attacked the problem from a slightly differe angle. It appeared to him that if Father Descoqs and his support

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[38] *Essai,* p. 91.

[39] *Rev. de phil.,* November-December, 1922, p. 645.

Father Voisine had succeeded in endowing the pluriformist thesis with a certain vague plausibility and had certainly convinced themselves that there is nothing wrong with it, this was mainly due to the manner in which they had stated the question. He observed[40] that, apart from any other considerations, the arguments in favor of the theory that the inorganic elements can play the part of potentiality or matter and be "subsumed" by the vital principle and thus be incorporated in the vital unity without ceasing to be themselves, are only admissible if the vital principle, whose task it is to subsume the inferior forms or materials, *is already there*. If in the case of man, where all parties to the dispute admit the *creation* of a subsistent vital principle — the human soul — we evidently have what the theory requires, this is not the case for the other species of living organisms nor even for the cells of the living body; since these, according to the pluriformists, owe their vitality to the special "cytodynamic principles." Either the vital principle is engendered by the action of the inorganic elements which originally combined (either naturally or owing to divine intervention) to form the organism,[41] or else it does not owe its origin to the agents which transform matter and must, therefore, have an independent origin. Consequently, it must be entitatively independent of matter and therefore immaterial. It is not produced by the combination that produces the organism; why, therefore, should it disappear with the disintegration of the organism? The sense of the remarks of Professor Boule and Father Descoqs appears to be that the vital principle *directs* physico-chemical processes. We thus arrive at the idea of an immaterial entity determining the cause of material processes: the relation of the soul to the body is like that of the pilot to the ship. This is certainly opposed to the view of St. Thomas.[42] It is true that Father Descoqs ener-

[40] "L'Unité de l'être vivant et la subsomption des formes," *Revue thomiste*, nouvelle série (St. Maximin), 6e Année, 1923, Nos. 23, 24, pp. 270-310.

[41] We may note here the opinion of St. Thomas in regard to the production of the substantial forms of animals and plants. He is discussing the idea that the agents of nature merely *dispose* matter; while the form "quae est ultima perfectio, provenit a principiis supernaturalibus. Quae quidem opinio," he replies, "ex duobus praecipue ostenditur esse falsa. Primo quidem ex hoc quod, cum formarum naturalium et corporalium esse non consistat nisi in unione ad materiam; ejusdem agentis videtur eas producere cujus est materiam transmutare. Secundo, quia cum hujus modi formae non excedant virtutem et ordinem et facultatem principiorum agentium in natura, nulla videtur necessitas, eorum originem in principia reducere altiora; unde Philosophus dicit (in VII Metaph., com. 28), quod caro et os generantur a forma quae est in his carnibus et in his ossibus: secundum cujus sententiam non solum agens naturale disponit materiam, sed educit formam in actum, e converso primae opinioni." *De Pot.*, 3. 11c (*Quaestiones Disputatae* [Paris: P. Lethielleux, 1925] T. II).

[42] ". . . anima non movet corpus per esse suum, secundum quod unitur corpori ut forma, sed per potentiam motivam, cujus actus praesupponit jam corpus effectum in actu per animam; ut sic anima secundum vim motivam sit pars

getically repudiates this interpretation of his ideas; nevertheless, he devotes a section of his work[43] to a defense of the thesis that there can be at least a *dynamic* contact between beings of essentially different natures, such as material entities and the separate soul; which could be used as an argument for the Cartesianism he rejects.

The main objection made to the view of Father Descoqs by the present writer was based on the classical Aristotelian principle: *generatio unius est corruptio alterius.* The generation of a new being necessarily implies the disappearance of the forms of the beings from which it has been generated. According to the pluriformist thesis, one must assert: *generatio unius non est corruptio alterius.* But generation consists in the production of a *new being:* this everyone admits. This being is *one;* if not, it is not a *being,* but a *plurality of beings — unum et ens convertuntur.* But, since the combining bodies, on the pluriformist theory, do not cease to exist as such, each of these remains *a* being. The generated being is thus simultaneously and actually *one* and *many.* What we want to know is not so much how the combining bodies can lend themselves to information by the higher form without ceasing to be themselves; but rather, *how they can engender the new formal principle without ceasing to be what they were.* We have to explain how they can *give without losing.* As will be seen, either the system breaks down on the principle of contradiction; or else the unity of the living organism is only accidental, and in that case the vital principle of the ensemble differs in no way from that of a machine. We have merely a *unity of order* or a co-ordination of independent activities.

A comparison of the criticisms recorded above will show, we believe, an essential similarity. All the critics agree that the thesis of Father Descoqs is fundamentally opposed to Thomist principles and indicate their conviction that it is either a contradictory proposition or a form of Cartesianism in which a nonmaterial vital principle directs a material aggregate.

REPLY OF FATHER DESCOQS

These criticisms were, however, rejected *in toto* by Father Descoqs as constituting in the first place a *petitio principii,* and in the second place an *ignoratio elenchi.*[44] In other words, they beg the question at issue and they entirely miss the point of the argument. They beg the question at issue because *they assume* that substantial change involves

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movens, et corpus animatum sit pars mota." *ST,* I, 76. 4 ad 2 (Turin: Marietti, 1917), Vol. I.

[43] *Essai,* pp. 116-18.

[44] *Ibid.,* Appendice V.

a transformation *usque ad materiam primam,* whereas this is just what has to be proved. They miss the point of the argument when they assert that the compound (atom, molecule, cell, organism) on Father Descoqs's theory is only an aggregate.

The objections against the pluriformists would be valid, says Father Descoqs,

> if, in one and the same living organism, they distinguished as many fully constituted beings as there are subordinate elementary forms; or if, in other words, they asserted that to each distinct subordinate form, there corresponds a distinct, fully constituted compound, which *would act* on the others. What has preceded shows that this is purely fictitious. According to them, there are not in man chemical bodies which are distinct and fully constituted *actu,* having each, as individuals, *l'esse simpliciter;* there is not one or several vegetative organisms, an animal and a spirit; but there is a being essentially and substantially one, in which the chemical elements — and perhaps, also, the cells — retaining a vital principle which is, though subordinate, proper to them, are intimately penetrated and raised to the level of human life by the informative influence of the spiritual soul, unique form of man as such. Thus there is not, between the various degrees of life comprised in the human composite, any real action and reaction such as occurs between a superior and an inferior that are really distinct. There are only immanent operations of a single living thing that is *per se unum.* The Scholastics who maintain a certain plurality of forms are very far from *juxtaposing,* in the same living organism, the physicochemical, the vegetative, and the spiritual in the manner of a Descartes; the mediate information of the physicochemical elements by the soul implies, in their eyes, a veritable information which penetrates the whole and by that very fact excludes all efficient causality in the proper sense of the lower elements on the higher.[45]
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> But if these points are accepted [continues Father Descoqs] does it follow that the information of all these elements by the soul has to be an *immediate* information of the ultimate potential element of the subject; or, more exactly, that there can be only a single unique informative principle in the living being? This is quite a different question for the solution of which we need a new argument. We are told, and it is supposed that the spiritual soul of man, being certainly the formal principle of the vegetative and sensitive life of man and furthermore being unique and simple, must, if it "informs" at all, inform everything, and that *exclusively* and *immediately.* But that is precisely what has to be proved and what is in question.

A possible objection, says Father Descoqs,[46] is that in the pluriformist system the physicochemical elements are affected by external agents only as *physicochemical elements.* Thus to explain any *vital reaction* that ensues, one must suppose that the nonliving elements act, in turn, on the soul, which is impossible. Father Descoqs replies, that since the soul really informs the extended physicochemical elements, it is affected by the action by reason of the *materia secunda* with which it

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[45] *Ibid.,* pp. 114-15.

[46] *Ibid.,* pp. 115-16.

composes *ut quo;* or better, by reason of the whole but unitary composite of which it is part. This means, apparently, that the vital principle is affected *per accidens* exactly as the vegetable soul is divisible *per accidens.*

At every ontological level in an organism there are therefore entities having their proper determinations, which, nevertheless, without losing these, can lend themselves as true potentialities — as determinable matter — to information by a form of a higher order. In such a combination the lower form exercises the function of "principle of determination and essential constituent," while the higher form is "principle of existence" or being.[47] The *materia secunda,* in the combination, thus receives from the higher or subsuming form *l'esse simpliciter.*[48] Though the elementary forms conserve their "native reality," yet they are profoundly modified by the subsuming form. Under these circumstances, says Father Voisine, with the approval of Father Descoqs,

> such an elementary form would sometimes look to a higher form than its own, the end of a superior form; such an elementary form — by reason of being a potency, by means of its matter, and because of that matter, and all the while retaining such reality as it has — would bear the weight of acts which would orient it toward new operations.[49]

DETAILED CRITICISM OF PLURIFORMISM

It is perhaps a coincidence that Father Descoqs describes matter and form as metaphysical principles,[50] because with metaphysical principles his proposition is valid. Perhaps there is not much point in quoting St. Thomas to Father Descoqs; for he is well acquainted with the idea of the Angelic Doctor. However, in the third article of question 76 of the *Prima Pars,* there are some remarks that seem worth citing. St. Thomas is considering whether, besides the intellectual soul, there are in man other souls essentially different from one another. In the fourth objection he refers to Aristotle, who says, in the *Metaphysics,*

> that the genus is taken from the matter, and difference from the form. But *rational,* which is the difference constituting man, is taken from the intellectual soul; while he is called *animal* by reason of his having a body animated by a sensitive soul. Therefore in man the intellectual

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[47] *Ibid.,* p. 90.

[48] The present writer misread a rather obscure passage of Father Descoqs's on this point.

[49] ". . . telle forme élémentaire regarderait parfois une fin plus haute que sa fin propre, la fin d'une forme supérieure, et, tout en conservant sa réalité, telle quelle, porterait, à titre de puissance, avec sa matière conjointe et à raison même de cette matière, le poids de l'acte qui l'orienterait vers des opérations nouvelles" (*Essai,* p. 88, n. continued from p. 87, quoting Father Voisine, *Rev. de phil.,* November-December, 1922, p. 643).

[50] *Ibid.,* p. 247 ff.

soul is not essentially the same as the sensitive soul, but presupposes it as a material subject.[51]

This is precisely Father Descoqs's thesis. St. Thomas replies:

> We must not base the diversity of natural things on the various logical notions or intentions which follow from our manner of understanding; for reason can apprehend one and the same thing in various ways. Therefore since, as we have said, the intellectual soul contains virtually what belongs to the sensitive soul, and something more, reason can consider separately what belongs to the power of the sensitive soul, as something imperfect and material. And because it observes that this is something common to man and other animals, it forms thence the notion of the *genus*. On the other hand, that wherein the intellectual soul exceeds the sensitive soul, the reason takes as formal and perfecting; and thence it gathers the *difference* of man.[52]

Why, in the opinion of St. Thomas, this thesis cannot be accepted in regard to natural things is made clear in the fourth article.

> If we supposed that the intellectual soul is not united to the body as its form, but only as its mover, as the Platonists maintain, it would necessarily follow that in man there is another substantial form by which the body is established in its being as movable by the soul. If, however, the intellectual soul is united to the body as its substantial form, as we have said above, it is impossible for another substantial form besides the intellectual soul to be found in man.
>
> In order to make this evident, we must consider that the substantial form differs from the accidental form in this, that the accidental form does not make a thing *to be absolutely*, but *to be such*, as heat does not make a thing to be absolutely, but only to be hot. Therefore by the coming of the accidental form a thing is not said to be made or generated absolutely, but to be made such, or to be in some particular disposition; and in like manner, when an accidental form is removed, a thing is said to be corrupted, not absolutely, but relatively. But the substantial form gives being absolutely, and hence by its coming a thing is said to be generated absolutely, and by its removal to be corrupted absolutely. For this reason, the old natural philosophers, who held that primary matter was some actual being — for instance, fire or air or something of that sort — maintained that nothing is generated absolutely, or corrupted absolutely, but that *every becoming is nothing but an alteration*, as we read in *Physics* i. Therefore, if besides the intellectual soul there pre-existed in matter another substantial form by which the subject of the soul were made an actual being, it would follow that the soul does not give being absolutely, and consequently that it is not the substantial form; and so at the advent of the soul there would not be absolute generation, nor at its removal absolute corruption. All of which is clearly false.[53]

Now Father Descoqs has rejected the idea that the soul is joined to the body as its mover. If we compare his statements with those of St. Thomas we see that since the forms of the elements do not, in the

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[51] A. Pegis, *The Basic Writings of St. Thomas Aquinas* (New York: Random House, 1945), I, 704. Permission to quote from this work has kindly been granted by the publisher, Random House.

[52] *Ibid.*, p. 707.

[53] *Ibid.*, p. 708.

human body, give the *esse simpliciter* (i.e., cause it *to be absolutely*) but merely cause it *to be such* (e.g., to have the properties of carbon, hydrogen, and so on), they are what St. Thomas calls accidental forms. If they are accidental forms, they are *entia entis,* in dependence on the substance and therefore on the substantial form, ultimate source of all determinations. But this is not true for Father Descoqs. For him, these forms *remain in the organism, the source of the determinations of the elements* and thus of all the observable determinations of the body, since it is entirely constituted by the elements. If the forms of the elements were accidental forms, the transformation following their entrance into the body must extend *usque ad materiam primam* which Father Descoqs does not accept. In his view, the human soul informs matter already determined and informs it as such. On the other hand, the forms of the elements are not substantial forms of the human organism. The unique substantial form, giving the *esse simpliciter,* is the human soul. It was objected to Father Descoqs that when the elements enter the organism they already *exist;* how then can they be *potentialities* with respect to another existence, conferred by the human form?[54] Father Descoqs, however, saw no reason why a substantial being having already, by its form, an existence which corresponds to a certain definite degree of being cannot become a potentiality *ut quo* to a higher substantial degree of being and be raised to this higher degree by a more perfect form which specifies it in the most rigorous sense of the word and is, for it, the principle of an existence proportionate to this new degree of being, though leaving it the reality of its original form as a determining principle. This more perfect form is principle of unity and activity at the higher level.[55]

One of the most remarkable things about the *Essai* of Father Descoqs is the spirit of confidence that it exhales. He is quite certain that he is right. He can positively see no reason why the inorganic elements, with their physicochemical forms, cannot, without losing their native reality, lend themselves as matter to substantial compenetration by a higher form which will cause them to be absolutely. This confidence is a symptom of the logical or internal cohesion of the system, which is itself worthy of attention. The question is, however, what relation exactly, has this very peculiar system to Thomism? It appears, as the Abbé Gossard rightly said,[56] as "uni système dissident de la grande tradition Thomiste." As it stands, it clearly has no place in the Thomist synthesis.

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[54] *Essai,* pp. 89-90.

[55] *Ibid.,* p. 91.

[56] *Rev. de phil.,* November-December, 1922.

The writer believes, nevertheless, that it is, in a sense, of Thomist origin. It must be understood *as a transposition of the Thomist theory of instrumental causality*. Interpreted in this sense, it becomes perfectly clear. It can then be seen that the relation between the higher forms and the *materiae secundae* — between the human soul and the inorganic elements for example — is exactly that which exists between the *instrumental virtue* and the instrument, *considered as capable of existing as an active unit, in the absence of the principal cause.*

Let us examine a simple case of instrumental causality, the use of a paintbrush by an artist.

Considered in itself, as it lies on the table, the paintbrush is an inorganic aggregate, composed of a piece of wood, a metal strip, a little glue, and a bunch of hairs. We *call* it a paintbrush; but this denomination is carried over from the consideration of the paintbrush in use and does not properly belong to it when it is lying on the table. Its unity, in that condition, is purely accidental: a unity of material contiguity only. Its various parts have native properties which can produce certain effects proper to them, though this does not happen to be very noticeable in the case of the paintbrush. It must be noted also that the parts of the paintbrush exist, not, strictly speaking, as parts of a paintbrush, but as wood, metal, hair, and glue, with their specific determinations. We may say, at least for the purpose of this discussion, that each part has its substantial form and also its accidental forms.

However, though the aggregate of entities constituting the paintbrush is, in so far as is possible for an aggregate, a completely determined entity existing in act, it is, nevertheless, *potentiality in regard to its status as an instrument.* Its native properties in a certain manner *predispose* it to its use by the artist; but between the aggregate, with its native properties, and its instrumental function there is not an absolutely necessary relation. Thus, the handle, being pointed, may be used to punch holes in a sheet of paper; the hairs may be used to clean dust out of small cavities. This *real possibility* of serving various ends in ways that cannot be precisely designated in advance characterizes the paintbrush, considered in relation to its instrumental status, as a *potentiality.*

Let us now consider this aggregate of materials in use, in the hand of the artist. He uses it to paint a picture; and when it is functioning in this way, we properly call it a paintbrush. In a certain sense, the paintbrush is responsible for the painting. Every particle of color on the canvas, with the arrangement and differences in tone that constitute the painting, has been placed there by the brush. We can therefore say that the painting is *wholly* caused by the brush. Nevertheless, it is clear

that the painting would not exist without the purposeful and deliberate manipulation of the brush by the artist. We must therefore say that it is *wholly* caused by him. The reason it is possible to assign an effect *wholly* to two different causes, is that one is subordinate to the other. The artist is the *principal* cause; the paintbrush, the *instrumental.*

In itself, as a material aggregate, the paintbrush is completely incapable of executing the painting. As an instrument it thus attains an effect *higher* than that of which it is capable as an aggregate. It cannot be denied that in its particular order it is truly the cause of the *whole* effect. *Operari sequitur esse.* It is clear that the paintbrush as an instrument has a *higher entitative status* than it has as an aggregate. It is evident, also, that it cannot raise itself in the scale of being. Its elevation must therefore be due to the principal cause. On the other hand, the change in the paintbrush, when it becomes *instrument,* must be *intrinsic,* not merely *extrinsic.* It must then acquire a quality or power which it had not as an aggregate. This quality is what St. Thomas calls the *virtus instrumentalis.* It is transient—*fluens*—and though it is a physical quality *in* the instrument, it resides in the instrument only so long as the instrument remains under the control of the principal cause.

Thus the instrumental virtue is a *form* by which the aggregate is raised to a higher level and enabled to produce effects of which, as an aggregate, it was incapable. By this form the aggregate is constituted as instrument *in actu primo.* In other words, the instrumental virtue causes it to be, absolutely, *as an instrument.*[57] Furthermore, it positively modifies that which is to be instrument, elevating it entitatively and applying it to the effect. Through the instrumental virtue the instrument participates, in a transitory way, in the status of the principal cause. Nevertheless the properties or forms of the aggregate which has become instrument conserve their native reality. If we examine the observable properties of the instrument in action we shall see exactly the same piece of wood, the same metal band, the same pencil of camel's hair. Only by its instrumental action does the paintbrush differ from the aggregate which was lying a moment ago on the table. Thus "a certain elementary form" is "related to an end higher than its own, the end of a superior form, and, while keeping its reality as it is," carries "as potentiality, with its conjoined matter, and even

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[57] Cf. John of St. Thomas, *Philosophia Naturalis,* I, 26. 1 (*Cursus Philosophicus Thomisticus* [3 vols.; Turin-Rome: M. E. Marietti, 1930-37], II, 514): "Inter eos vero, qui ad instrumentum requirunt aliquam realem virtutem, sive assistentem sive receptam, duae sunt sententiae: *Prima* affirmat constitui instrumentum in actu primo per aliquem motionem, quae sit participatio virtutis per modum transeuntis. Ita communiter tradunt thomistae . . ."

in reason of it, the weight of the act which would orientate it toward new operations." These, the reader may recall, are the words of Father Voisine, who is summarizing, with the complete approval of Father Descoqs, their theory of matter and form![58]

Considering the matter in this perspective, we can see that the *materia secunda* of a body existing in act can, in fact, lend itself as a potentiality to information by a higher form. By this information the body is *caused to be, absolutely,* on a higher level. The information is therefore substantial; yet the lower forms remain the "principles of determination and essential constituents."[59] The aggregate nevertheless is "profoundly modified" and intimately compenetrated by the higher form.[60] We see also that though the primary matter of the aggregate, being actualized by the forms of the aggregate, is refractory to *immediate* occupation by another form, a *mediate* information is possible.[61]

There is another important point to consider. We are accustomed to think of the instrument as something with which we maintain immediate contact; but this does not appear to be necessary. The thrown spear is surely not less an instrument than the one wielded by the hand. Here the movement is communicated entirely by the principal agent; but this is not true for the arrow where man and bow combine to produce it. The windmill pumping water is also as much an instrument as the pail let down into the well with a rope. The test, in all these cases, is the *end* to which the movement proceeds; if this is an intention of the principal agent and is attained through his design, the subordinate agent is an instrument. In such detached instruments, which seem, in a sense, to participate in the vital movement of the principal agent, we have the closest approximation to the hylomorphic theory of Father Descoqs that nature provides.

But even in this extreme case, the subsuming "form" remains a transitory, fluent entity, strictly dependent on the principal cause. Without its efficiency, without the motion it communicates, the intrinsic elevation of material aggregates to the status of instrument would be impossible. The communicated motion, extrinsic in origin, is, in fact, what we mean by the subsuming form. If this is the role of the substantial form in the living body, then Father Descoqs has good reason to assert the "dynamism" of the form.

The soul is in the body as the pilot is in the ship; and although it is immaterial it must direct the body after the manner of an efficient

[58] *Essai,* p. 88, n.
[59] *Ibid.,* p. 90.
[60] *Ibid.,* p. 79 ff.
[61] *Ibid.,* p. 89.

cause. It is clear that nothing could be farther from Father Descoqs's intention, but it is equally evident that this is the only possible conclusion from his principles. It is true that in the explanation here proposed the organism is really like the paintbrush, *functioning as an instrument in the absence of the artist.* We can represent this to ourselves if we remember the brooms in Walt Disney's *Fantasia* version of the *Sorcerer's Apprentice.* In this case there would be no efficient cause, and the instrumental virtue would appear as a *principle* of activity, not as the communicated efficiency of an agent. But the idea of an instrument without a principal cause is contradictory. Thus the soul must play this part. From this it follows that the plausibility Father Descoqs gave to his pluriformist doctrine by expressing it in terms of instrumental causality is entirely fictitious; and that the original objections made against him by his Thomist critics, including the present writer, remain unanswered and must be regarded as unanswerable. It may however, be objected, that the physicochemical properties of the body are frequently described by philosophers of the strict Thomist school and by St. Thomas himself as *instruments of the soul.* For St. Thomas, says Father Sertillanges,[62] "everything takes place chemically as if there were no soul, and everything takes place vitally as if there were no chemistry." The physicochemical forces, says J. Maritain,[63] "as instruments of the soul and of the vegetative faculties, and without violating the laws of inanimate matter," produce in the living being "effects which surpass what they could accomplish by themselves alone." And St. Thomas himself asserts, "In the operation of the nutritive potency the soul acts as principal agent; while the heat of fire acts as instrument as we find stated in the second book of *De Anima.*"[64] Now if the body possesses true physicochemical properties, which follow the laws of inanimate matter, it would appear to be in itself simply a complex, inanimate, chemical compound or an aggregate of such compounds, which is *vitalized* by the *instrumental virtue* derived from the soul. We thus arrive at a concept practically indistinguishable from that of Father Descoqs.

However, we do not believe that this is a correct interpretation of the Thomist theses involved in the argument. In the first place, as we have already said, the term, "physicochemical properties" does not carry any nonvital implications. These properties must not be regarded as a trans-

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[62] ". . . tout se passe chimiquement comme s'il n'y avait point d'âme, et tout se passe vitalement comme s'il n'y avait point de chimie" (*op. cit.*, II, 86).

[63] *Op. cit.*, pp. 381-82.

[64] "In actu enim nutritivae potentiae est vis animae sicut agens primum; calor vero ignis sicut agens instrumentale ut dicitur in II de Anima." *De Ver.*, 14. 5 (*Quaest. Disp.* [Paris: P. Lethielleux, 1925], T. I).

plantation to the living organism of a collection of specifically nonvital entities. They are simply the objects of the senses, defined and classified and considered *in abstracto,* i.e., without regard to the ontological status of the subject. All material bodies have extension, mass, color, specific gravity, temperature, taste, and so on. Considered *in abstracto,* then, properties are neither living nor nonliving. Considered in themselves, they are *attributes* or *accidents* of real material bodies, which may be either living or nonliving. But the accidents themselves can be called neither living nor nonliving because these terms can only be applied to *substances.* "Living" denotes the material thing that moves itself; "nonliving" denotes the material thing whose movement depends on another. To describe the properties of the living thing as physicochemical, in the sense that they are nonliving, is to commit two errors: to substantialize accidents and to describe these pseudosubstances as nonliving. Accidents, being *entia entis,* derive all their reality from the being of which they are accidents.

The statement that everything takes place "physicochemically" in the living body must be interpreted in the light of the foregoing remarks. The corpus of physicochemical laws cannot necessarily be completely constituted by the observation of nonliving substances. "Physicochemical law" refers to a regular sequence or concatenation of the observable properties of the material body and is established by an induction from the facts. There does not seem to be any a priori reason why these facts should be selected exclusively from the category of nonliving bodies. If they are, why should the law based on these facts apply to living bodies? It seems, rather, that observations on both categories are necessary for the establishment of absolutely general laws; and it is difficult to see why we should expect the *general* law to be the same as the law based on the observation of nonliving bodies alone. If it is true that the physiochemical forces produce in the living being effects which surpass what they could accomplish by themselves alone, then we must conclude that "the laws of inanimate matter" are "violated"—though *violence* is not, we consider, a proper word in this connection—because these laws are defined scientifically as observable concatenations, and the soul and its powers are unobservables. Moreover it is impossible to subtract the effects of the soul and its powers from the effects of the observable properties of the living thing in order to discover what effects they would produce there by themselves alone. It seems clear that to establish absolutely general "physicochemical laws" we must observe *all* categories of material bodies; but if different categories exist, we need not and should not expect the general law to be identical with the law of any one category and particularly

of the lowest category. This means, of course, that absolutely general physicochemical laws cannot be framed—since the laws of living organisms cannot really be reduced to those of nonliving organisms. This reduction is no doubt a methodological ideal; but we have no reason to believe that it is attainable.

Strictly speaking, the physicochemical properties of the organisms cannot properly be described as *instruments*. "It is of the nature of an instrument," says St. Thomas, *"to move only when moved."*[65] And John of St. Thomas writes:

> In answer to the difficulty implied in the argument on the conjoined instrument, we have very frequently said that it does not enter our discussion because it is not an instrument in the strict sense, but rather a power proceeding from the principal causes themselves. By the very fact that such powers are conjoined, or flow from the substance itself, with no new motion superadded, they possess the power of acting from the substance itself precisely because they are its powers.[66]

The relation between the *instrumentum conjunctum*—for example, between a man and his arm—is very different from that between the principal cause and a true instrument—for example, between a man and his paintbrush. A true instrument, as we have seen, is a *movens motum*. It moves because it is moved by something else which can be clearly distinguished from it. This clear distinction is impossible in the case of the *instrumentum conjunctum* because it is an integral part of that which is said to be moving it. The arm is part of the man and when we say that the man moves his arm we really mean that the man is moving himself or a part of himself. Indeed, it is nearer the truth from the pure anatomical standpoint, to say that the arm moves itself, or that the muscles of the arm move themselves and thus move the organ of which they are parts. In other words, the parts of the living body possess, in themselves, the power of movement. Their movement is not communicated to them by something else. Their power of action comes to them from the living substance itself. What is true of an organ like the arm is also true of the "physicochemical properties," which are simply the *observable* properties of the various parts of the body. The reason we do not call these *vital* properties is simply that

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[65] "Est enim ratio instrumenti quod sit movens motum." *CG*, II, 21 (Paris: Louis Vivès, 1854).

[66] "Ad difficultatem insinuatam in argumento *de instrumentis conjunctis* iam saepe diximus, nos non loqui de illis, quia proprie non sunt instrumenta, sed virtutes ipsarum causarum principalium, quae hoc ipso quod sunt coniunctae vel ab ipsa substantia profluentes, sine alia nova motione superaddita virtutem agendi habent ab ipsa substantia, eo quod virtutes illius sunt." *Philosophia Naturalis*, I, 26 (*Cursus Phil. Thom.*, Vol. II, p. 520b 48 to p. 521a 8).

the word does not apply to properties, considered in themselves; but for the same reason *nonvital* does not apply either. Thus the relation of the soul and the vital powers to the material properties of the organism is not that of the artist to the paintbrush. The properties of the paintbrush can be called *vital* in so far as they are utilized in the realization of the intention of the artist, and nonvital in so far as they are not so utilized, as when the brush is lying on the table. In exactly the same way the properties of the organism can be called vital in so far as they are used by the organism to attain its ends, and nonvital in so far as they are not. But in both cases these denominations are purely *extrinsic. It is not the properties of the brush, but the brush itself* that is elevated to a higher level by the instrumental virtue: the effect is *transitory* but *substantial.* The *instrumentum conjunctum* is *permanently* and *substantially* at the vital level. Thus it is only in a loose and metaphorical sense that we can speak of "physicochemical properties" as "instruments" of the soul or the vital powers. These expressions, when properly understood, offer no support to the theses of Father Descoqs.

The main effort of Father Descoqs was directed to a philosophical justification of the statements of scientists on the structure of matter and the character of material transformations. If this effort was unsuccessful, as we believe, it follows that the scientific description of compounds as aggregates and of the transformations of matter as what philosophers call accidental changes, cannot be harmonized, as it stands, with Thomist philosophy. As we have already indicated, they must be regarded as products of scientific methodology, not as elements of a philosophical system.

In the conviction that the classical proofs of the hylomorphic theory have been undermined by modern science, Father Descoqs has taken a great deal of trouble to produce new demonstrations. These are based on the divisibility of the material continuum and the existence of activity and passivity in the material world. We do not propose to make a detailed study of these proofs. However, it seems necessary to point out that if the scientific statements recorded by Father Descoqs are valid, the material continuum is something with a very elusive status. The hylomorphic theory cannot be solidly established by an imaginary division of hypothetical entities. On the other hand, the arguments accepted by Father Descoqs against the existence of substantial mutations make it impossible for him to assert that the apparent continua perceived by the senses are really what they seem to be. He has already agreed that they are merely aggregates and in that case what seems like a division is merely the separation of *contigua.* It is thus impossible to be sure that one is really dividing a continuum.

FACTUAL BASIS OF THOMIST HYLOMORPHISM

If the doctrine of matter and form is to survive, it must be based on far more solid foundations than the obscure and dubious accounts of ultramicroscopic events given by the physicists. A naturalist can only consider with astonishment the complete failure of some modern Scholastics to look at the obvious, incontestable facts of nature and their positive preference for evidence extracted from subterranean conundrums.

The present writer is inclined to think that the existence of substantial mutations, in the strict Thomist sense, can be demonstrated from the obvious differences among common material things, without recourse to the classified results of scientific investigation. Let us take, as an example, the difference between a lump of charcoal and a lump of flint; and let us assume that we have no definite information about the chemical status of these objects. Examining them, we see that they have certain similarities but also that they are in many ways quite different. Both are solids; but the flint is very hard, while the charcoal is relatively soft; the flint breaks regularly, with a conchoidal fracture, whereas the charcoal breaks quite irregularly. The charcoal is black, while the flint is brownish-gray. The charcoal floats on water, while the flint sinks. The charcoal can be ignited, but not the flint. We must therefore say that what flint *is,* charcoal *is not.* Their properties are contraries. It may be objected that they have certain properties in common: for example, mass and extension. But these properties are really not identical in the flint and the charcoal. A cubic centimetre of flint weighs more than a cubic centimetre of charcoal; conversely, a decigram of charcoal has a greater extension than a decigram of flint. It is only as universals or abstractions (*materia universalis*) that mass and weight are common to flint and charcoal. With respect to their *real masses,* flint and charcoal must be called *heavy* and *light;* with respect to their real extensions, as *small* and *large:* and these also are *contraries.* If, then, we suppose that they are *materially identical,* the matter common to them, if it is not merely a universal (which exists, as such, only in the mind) but a reality (existing in things), can have only the reality of a *real possibility,* capable of being flint or charcoal (though it is not the contrary of either), but itself being *nec quid, nec quale, nec quantum.* This is *materia prima.* And since the transition of properties is such that all are opposed as contrary to contrary (which is not the case with a *large piece* of flint or charcoal as opposed to a *small piece*); we can say these are two different *substances,* with different determining principles, which are the *substantial forms.* Flint and charcoal have been known to the human race from immemorial antiquity. Pekin man could have used these familiar objects as a basis for

the Aristotelian argument. It is true that flint and charcoal have both a definite chemical status. Flint is mostly silicon dioxide and charcoal is mostly carbon. A catalogue of substances, defined on obvious perceptible differences, would be very different from the catalogue of chemical elements and compounds. It would include many mixtures of substances and identify things that are really different. Yet it would be much more than a selection of random phases or aspects of a confusion. "Earth" is an agglomerate. Nevertheless, the soil of a deciduous forest differs from that of a peatbog or of the seashore. These various soils are at least approximately definable. This is because they are composed of or derived from the entities recognized in the scientific catalogues established by the biologists and chemists. Their work demonstrates the essential soundness of the method of Aristotle. It is, indeed, in the main, a refinement or prolongation of his method. Father Descoqs quotes scientific statements suggesting that the breaking down of the barrier between chemistry and physics supports the theory that the so-called compounds are only agglomerates. It could be argued, with equal or better reason, that it indicates the presence of true chemical reactions in what were formerly believed to be mixtures.

But however this may be, there is not the slightest doubt that the Great Book of Nature, produced by the labours of the naturalists since Linnaeus and Lavoisier, constitutes a gigantic *confirmatur* of the doctrine of substantial transformations. Only the philosophers who have no direct firsthand acquaintance with scientific systematics as exemplified in sciences such as descriptive botany and zoology can fail to perceive the value of this evidence. There is no question that the specific descriptions of the taxonomists, in both chemistry and biology, actually designate substances. We do not assert, and we need not assert, that the *intervals* between the taxonomic species always represent substantial transformations. We consider that this is more frequently true with the nonliving than with the living species. The gap between carbon monoxide and carbon dioxide seems more significant than the gap between two "species" of blackberries or hawthorns. But, in general, the entities of the taxonomic system stand out in sharp relief against the shifting background of the "mixtures" or agglomerations. In the nonliving substance there is usually sensible homogeneity, and the separation of substances is based merely on the possibility of defining them as discontinuous assemblages of properties. Living substances exhibit sensible heterogeneity and can be distinguished not only as static assemblages of properties but also as dynamic units according to the manner in which one part moves another so as to attain some end specific to the organism as a whole. In this co-ordinated and specific

movement, structure, "physicochemical" properties, physiological reactions, and instinctive behavior are all involved. In the unification of a multiplicity, with reference to a specific end, the organism resembles a machine; but it is not, like the machine, unified by the participated activity of a separate mover. It moves itself, and what we call "physicochemical properties" or "cytological activities" are simply the living unit envisaged *in abstracto* at various levels. They are not true nonliving or nonorganismal agglomerates unified and moved by something higher. There is nothing to move them but the thing they constitute; in other words, *nothing to move them but themselves.* The vitality of the living thing must therefore extend *usque ad materiam primam.* Furthermore, the specific vital movements, even of closely related organisms, may be as different as the mechanical co-ordinations of a bicycle and a typewriter. Since the disintegration of one produces material utilized by the other, there are substantial mutations, of which the subject has no positive qualitative or quantitative attributes and cannot be called a *thing.* This subject is therefore *materia prima* and the specific forms that determine it are *substantial forms.*

Nevertheless, there are certain evidences of heterogeneity in material things that cannot altogether be neglected and whose significance must be briefly considered. The first is the fact that the substances that unite to form a compound can always be extracted from it in the same quantities. This suggests that they have subsisted as entities in the compound. The second is that when the cellular constituents of an organism are removed from it and placed in a suitable medium, they continue to live. From this it has been argued that cytodynamic principles exist, informing elements which act as matter with respect to the form of the whole organism.

The first point has already been discussed in some detail in the preceding pages. It has been shown that scientific statements on this matter have not necessarily any bearing on the philosophical problem of the unity of the compound. A few other points may be noted here. In the first place, as the example of the living organism shows, material and observable heterogeneity is not incompatible with formal unity. A certain multiplicity necessarily exists in every material object, since it has not only potential parts but also actual parts. It is the existence of constant specific characters, not perceptible homogeneity, that marks the chemical compounds as units. The heterogeneity of properties, which is all that remains of the combining entities, presumably entails local differences in the effects produced by the various forces acting on the compound; so that it naturally tends to decompose in such a manner that the original components are produced, somewhat in the way in

which a crystal splits along its cleavage planes, producing elementary crystals. It should be pointed out also that the decomposition of compounds does not always produce identical materials. The products of the peptic and tryptic digestion of proteins are very different from the products of their putrefactive decomposition—a fact which comes home to us when we fail to digest our dinner. Even relatively simple compounds may break up in different ways under the action of different groups of forces. It is only under special conditions and in the most simple compounds that a direct production of the elemental components occurs. If the chemical compound were absolutely homogeneous, the action of any uniform forces brought to bear on it would be received in an absolutely uniform manner. *Quidquid recipitur, recipitur ad modum recipientis.* There would be no intrinsic tendency to the production of the original components and thus all chemical combinations would be irreversible; except perhaps by accident, the original components would never reappear. Furthermore, the combination of the elements present in the living organism, no matter how it occurred, would also give a homogeneous substance; and in that event life would be impossible, because life can occur only in those material bodies so organized that one part is agent and the other patient: which requires heterogeneity.

It appears to the writer that the Cartesian doctrine, with its violent contrast beween the immaterial thinking soul and the physicochemical body, has had a rather detrimental effect on the contemporary Thomist treatment of biological subjects and is responsible for the vague vitalism one often finds in it, expressed in the statement that the soul *directs* physicochemical or morphogenetic processes.[67] This gives rise to some rather unnecessary clashes with the experimental biologists.

The authentic doctrine of St. Thomas is very different. It may be remarked, to begin with, that his natural philosophy has, throughout, a strong biological tinge, which we might describe by saying that the effort to understand nature takes account of its *highest* manifestations. This entails a prolongation or projection of biological concepts into the lower levels of the material world. Even in *materia prima* there is a kind of aspiration or desire.[68] This is not hylozoism; but there is a positive ordination of the material world toward its highest levels. Thus the sharp break between the inanimate and the animate, characteristic of Cartesian theory, should not really be sought in Thomism. When St. Thomas admits the possibility of spontaneous generation, this is not,

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[67] E.g., R. P. Hugon, *Les Vingt-quatre thèses thomistes* (Paris: P. Tégui, 1927), p. 113, ll. 6-12.

[68] Aristotle *Physics* i. 9. 192a 22-23 (*Basic Works*, p. 235).

we suspect, merely a concession to the science of his time. Life, in its highest expression, is *immanent movement.* In its lowest manifestation, it remains *self-movement,* but it consists in the *transitive* action of one material part on another.[69] The reason it does not occur in the lowest orders of material things is not that a *directive vital principle* is lacking to them, but that, as St. Thomas explains,[70] they are naturally *too simple* and have not a diversity of parts sufficient for one to be *mover* and the other *moved.* We may also ascribe the "nonlivingness" of these things, he says, to the "meanness and materiality of the forms"; but it is clear that such forms necessarily characterize material bodies whose internal organization is below a certain level.

When the matter is considered from this point of view, it appears that any heterogeneity of properties in the nonliving substance is a necessary preparation or preordination to life, and any heterogeneity of activities an echo or analogue of life itself; and we shall not be unduly surprised if research reveals, between the definitely nonliving and the definitely living, a series of graded entities which have an ill-defined status and show the vital process of self-movement only intermittently or incompletely. *Supremum infimi attingit infimum supremi.* Such is perhaps the status of those mysterious entities, the viruses, whose dimensions in some cases hardly exceed that of a protein molecule but which nevertheless are considered by some investigators as elementary forms of life.

In the light of the foregoing considerations the results of the experiments on tissue culture—which constitute, it must be said, only a special group in a large field of facts having the same general significance—appear simply as expressions of the general laws governing material transmutations. In both living and nonliving compounds the heterogeneity of properties which results from their composite origin makes it possible for them to break down or decompose in various ways according to the nature and mode of action of the forces at work on them. Between the complex initial stage and the simple elementary end products, there may be a long series of intermediate stages. If the breakdown of the living organism is effected in such a way that the immediate products possess parts, of which one can be mover and one moved, then these parts will be definably living. The detachment of the egg cell in the normal process of generation represents, in the opinion of the writer, an event of this kind, involving a definite ontological regression which is, however, the prelude to the ontological ascension exhibited in embryological development. In tissue culture and similar phenomena, we have the production of elements or groups of elements

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[69] John of St. Thomas, *Phil. Nat.,* IV, 1. 4 (*Cursus Phil. Thom.,* III, 40).

[70] *De Ver.,* 22. 3 (*Quaest. Disp.* [Paris: Lethielleux, 1925]).

incapable, so far as we know, of developing into a complete organism. Nevertheless, under the conditions provided by the experimenter, they are capable of life; and their production must certainly be considered as a generation—extremely abnormal, no doubt, and analogous to the production of monsters, but authentic in that the product is really alive. But in the same way, the biochemist, starting with a complex chemical compound, by various processes can produce simpler substances which seem never to occur in nature. These also are generations and they may also involve ontological regressions.

If the entities thus produced are units, which the philosophers of the pluriformist school can hardly contest—since the constancy and specificity of their properties clearly indicates this—then they must, on the pluriformist theory, have their specific forms existing prior to their liberation as independent entities. But it is equally clear that from one and the same compound several more simple compounds can be produced; and in the case of extremely complex compounds the possibilities are very extensive and cannot be predicted in advance. The entities in question do not form a single ontological series but overlap and interlock in the most intricate fashion. The idea that their forms pre-exist in any real sense in the compound (we mean as subsumed actualities) would lead to inextricable difficulties and would, indeed, involve hypotheses that are mutually contradictory. We must therefore persist in our opinion that the Thomist theory of substantial transformations continues to hold the field.

CONCLUSION

The enormously powerful influence of scientific methodology, which so easily and so willingly puts on the mask of philosophy, undoubtedly creates serious difficulties for a philosophy whose origins are admittedly entangled with an obsolete science. But in our efforts to effect the incorporation of new facts we must not forget that we are dealing with a philosophy that is pre-eminently an organic unity. Theses that seem, on a superficial view, to form part and parcel of an outworn and abandoned cosmology may prove, on more careful study, to have vital connections. In such cases a hasty surgical operation may let the life out of the system. But for the same basic reason, more careful treatment may result in a genuine assimilation, to the lasting benefit of both science and philosophy. Such we believe to be the case with the hylomorphic doctrine of St. Thomas and the facts revealed by the experimental science of our time.

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LITERATURE AND THE FORMATION OF CHARACTER

That literature may function as an instrument in the formation of character is a venerable conviction that persists in the judgment of many a modern educator, despite the difficulty of providing what the natural scientist would call reliable experimental evidence to substantiate it. As long as contradictory evidence likewise remains wanting, it is reasonable to continue to hold this belief in the formative power of literature, on the supposition that, if it should ever be possible to assemble abundant public evidence, it would serve largely to confirm private observation. Furthermore, since we cannot rest content with the generality that merely expects reading to produce some indefinite effect upon the character of the reader, we must continue also to rely on the shrewdest available pedagogical insight to clarify the expectations by estimating the nature and extent of literary influence on moral development. The more precisely we can determine the circumstances and the operations of such influence, the more deftly shall we handle the instruments at our disposal, and the less rashly shall we anticipate the results obtainable.

If we are not misguided in believing that the ancients have lost none of their pre-eminence in tackling problems of humane concern that demand above all the application of insight for their solution, it may profit us to re-examine systematically some of their statements bearing on the relation of literature to the building of character. It is the intention of this article to offer an interpretation of the position of Aristotle. A preliminary exposition is naturally demanded, since it is only in view of what Aristotle took character to be, and of how he took it to be developed, that we can follow his implications as to the role that literature may play in its development.

For Aristotle then the term "character," strictly applicable only in the sphere of the rationally controllable appetitive movements of human beings, denotes a complex of qualities (called habits) that lead to a deliberate and welcome reception of certain emotions and to a deliberate and welcome performance of certain actions, a good character leading to the feeling of good emotions and to the doing of good actions. Character is the whole of which the virtues and vices are parts; and as character has reference to all emotions and actions,

the single virtue or vice has reference to a single kind of emotion and action. Character, however, applies not to the feelings and deeds themselves, but to a certain consistency of reaction to situations that evoke feelings and provoke deeds, as the virtues and vices abide whether the situations that call any of them into play are present or not. Yet character is not only a complex of persisting tendencies to feel and to act in given ways under given circumstances: truly human character implies also a preference for certain feelings and actions consciously held by the person feeling or acting. The man of thoroughly good character will not only feel the good emotion and perform the good action, but will do so with reflection and desire.

How then may these qualities be acquired in virtue of which a man will feel and act appropriately in all the conditions of life? As habits they are acquired by the habitual expression of native capacities; and as distinctively human habits, by habituation in the light of reason. Character properly so called, as a finished state of being, depends first of all on natural disposition, and the best possible foundation for a good character is a good disposition to begin with.[1] Disposition is prior in time to character and constitutes the material out of which character is moulded. As character includes all of a man's virtues and vices—that is to say, all of his trained tendencies toward passion and action—so disposition includes all of his native tendencies toward passion and action. They too are qualities, but inborn rather than acquired. They are manifested in every situation involving a man's affections and actions; and only when they have been observed adequately for any individual can the possibilities of his character be foreseen.

Here it may be well to pause and inquire by what scheme it would be profitable to attempt an analysis of disposition. Since disposition refers to the entire gamut of emotional reaction, the scheme for its analysis must be some classification of the emotions. Herein Aristotle allows us considerable latitude, as he never advanced any definitive list of emotions, nor did he leave any incontrovertible clues as to how his lists were constructed.[2] Let it be said merely that

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[1] The terms are elusive: *ethos* is the whole of which the *hexeis* are parts; but Aristotle uses both terms either of natural or of acquired states. In the natural sense we would render *ethos* as "disposition" or "temperament" and *hexeis* as "characteristics"; in the acquired sense we would render *ethos* as "character" and *hexeis* as "habits." In English a man's "habits" comprise his second nature; in Greek a man's nature is composed of his first *hexeis*. Natural *hexeis* are sometimes distinguished as *diatheseis*, while acquired *hexeis* are *ethe*.

[2] Thoroughly convincing and valuable from the ethical point of view, is G. S. Brett's evolutionary hypothesis to explain the ordering of the virtues in the

whatever principle of classification we may adopt, we must group the emotions co-ordinately with the traits of character we want ultimately to discern. Once we have determined and arranged the emotions we are going to consider, the task of analyzing a person's disposition lies in a sensitive observation of his natural reactions to whatever situations normally stimulate the emotions and actions we have in mind.

The moral endowment that constitutes disposition may be expected to vary as greatly as intellectual and artistic endowment. Aristotle was keenly aware of individual differences in ethical constitution. "In children," he says, "may be observed the traces and seeds of what will one day be settled psychological habits."[3] Pointing out certain permanent characteristics, he remarks that "some men are bold, some taciturn, some compassionate, some timid by nature."[4] Again, "by nature some grow up loving, and others ambitious";[5] and "people may be good by nature, that is, they may be generous or temperately inclined."[6] A person who by nature is inclined to respond in all situations with the appropriate emotions and actions Aristotle would call godlike. A person on the other hand who by nature is never inclined to respond appropriately is a brute. The majority of men are neither divine nor brutish but intermediate, "even if they lean more toward the worse states."[7]

The sum of a man's affective inclinations, then, is the disposition out of which his character may be molded. That Aristotle thought almost everyone capable of acquiring good character is clear from his statement that "all who are not maimed in respect to virtue may win it by a certain kind of study and care."[8] The moral cripple, moreover, is only a doctrinal possibility, since Aristotle holds that "all things have by nature something divine in them."[9] Yet no matter what the disposition may be, character will emerge only as the result of sustained training. The care that Aristotle has in mind, as even his most casual

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Nicomachean Ethics. The discussion is seen as proceeding from the most elemental emotions to the most refined. (Brett, *Psychology Ancient and Modern* [New York: Longmans, 1928], pp. 101-2). Cf. also the helpful work of Brett's student, A. K. Griffin, *Aristotle's Psychology of Conduct* (London: Williams & Norgate, 1931), pp. 44 ff. and 137 ff.

[3] *History of Animals* 588a 32-33. Some of the translations are borrowed, others adapted from the eleven-volume Oxford edition of *The Works of Aristotle Translated into English*, ed. by W. D. Ross. References, of course, are to page, column, and line of the Berlin edition.

[4] *Problems* 953b 19-20.

[5] *Eudemian Ethics* 1239a 27-28.

[6] *Topics* 115b 14-16. All these passages should be compared with *Nicomachean Ethics* 1144b 1-9.

[7] *Nic. Eth.* 1150a 15-16. Cf. *Rhetoric* 1382b 4-5.

[8] *Ibid.* 1099b 18-20.

[9] *Ibid.* 1153b 32.

student knows, is habituation. The training of a good character will consist of the repeated admission of the right emotions and performance of the right actions, and of the repeated suppression of the wrong emotions and actions. Naturally the discipline will have to be more or less rigorous depending upon the initial disposition. In so far as this is good, the discipline will confirm it; in so far as it is bad, the discipline will correct it. Over proportionately shorter or longer periods the better inclinations will become the fixed habits or the virtues of a good character. The supreme task of the moral educator lies precisely in inducing the constant expression of these better inclinations in order that through long-continuing repetition of their activities they may become permanent states. What instruments the educator may use in executing his task we shall be ready to inquire as soon as we have examined the last factor remaining after disposition and habituation in Aristotle's analysis of moral development.

As Aristotle maintained, "If a man once acquires reason, that makes a difference in action; and his state, while still like what it was, will then be virtue in the strict sense."[10] It follows that judgment of the mind must attend impulse and habit in the realization of character. A man's character will be perfectly good only if the goodness of his passions and actions is accompanied by his conviction of their goodness. This does not mean, of course, that a man is right if he thinks so. It means merely that if he is right, he must further think that he is. His thought must correspond with his activity, and if the latter is good, he must believe it to be. In the moral philosophy of Aristotle it is in fact the judgment of the good man that provides the criterion of right and wrong. The doctrine of the mean is merely a convenient way of describing, by terms of greater and lesser movement, the apprehensions of competent judges. While it is usually possible to describe as means the passions and actions which they discern in any case to be good, the excellence thereof is determined finally by the discernment of good men and not by any arbitrary manipulation of ethical scales.

Whence, we may ask, do men attain this power of discernment to distinguish the good activity from the bad? Intuitive reason is a natural endowment, the rational counterpart of our affective inclinations. Its influence will begin to be felt at whatever period in the life of a human being the distinctively human or rational powers start to function.[11]

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[10] *Ibid.* 1144b 12-14.

[11] *Ibid.* 1143b 8-9: "We think our powers correspond to our time of life, and that a particular age brings with it intuitive reason and judgment; this implies that nature is the cause."

Here again, and as a matter of consequence, Aristotle would insist that everyone has by nature at least some capacity to perceive what is good.[12] Although Aristotle will speak frequently of an opposition between our irrational and rational natures, it is important to observe that, in its inception at least, intuitive reason in ethical matters is dependent upon affective inclination. When Aristotle says that "virtue either natural or produced by habituation is what teaches right opinion about the first principle,"[13] he means that where good impulse is completely wanting, as in the case of the brute, there can never ensue an intuitive rational apprehension of what is truly good. The moral conflict must begin at the level of the affections before it can be transferred to the level of reason. Once it has begun, however, since reason will tend then on the whole to support the better impulses and give judgment in their favor against the worse, it becomes possible to speak of a conflict between reason and appetite.[14]

In the complete character "nature, habit, and rational principle must be in harmony with one another."[15] Since nature herself has to provide, and in the case of most men does provide, the spark of good impulse and intuition, the challenge of character formation lies essentially in acquiring the habits of feeling and acting in accordance with the good prompting. The mere presence of the right impulse or intuition is not enough, for "most men, while they wish for what is noble, choose what is advantageous."[16] The habits will be acquired only by repetition of the actual operations of feeling and acting, and it is the responsibility of the educator to induce the best of these in every possible way.

Whoever the educators may be, whether the statesmen, as most frequently in the political thought of antiquity, or the parents, teachers and pastors of modern life, the instruments of moral education remain constant. Since it is primarily by engaging in good activity that we acquire good character, it follows that whatever leads us to engage in good activity will be a valid instrument of character formation. Believing as he did that the natures of most men are worse rather than better, inclining more toward the extremes than toward the mean Aristotle naturally regarded the compulsive power of the law meting out reward and punishment as the basic instrument in the hands of the

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[12] *Eudem. Eth.* 1237a 4-5: "That which is absolutely good is by nature good to one who is a human being, at least to some extent." Cf. *Nic. Eth.* 1114b 31—1114b 18.

[13] *Nic. Eth.* 1151a 17-19.

[14] The clearest statement of the influence of irrational impulse upon reason occurs in *Magna Moralia* 1206b 17-29.

[15] *Politics* 1332a 39—1332b 6. Cf. *ibid.* 1334b 6 ff.; *Mag. Mor.* 1197b 37-1198a 3.

[16] *Nic. Eth.* 1162b 35-36.

moral educator. The early habituation of the majority must be imposed mainly through fear of punishment and hope of reward.[17]

Yet there are other influences that may somehow be brought to bear on good activity—notably, for our account, literary influences.[18] In the Aristotelian system literature may be utilized at either extreme of the formative process, that of disposition and that of rational perception, leading more or less to the habituation in good activity whereby the habits at the center of the process are acquired. At the one extreme literature may serve either directly by improving the disposition of the individual or indirectly by enabling him to take stock of his moral equipment; at the other extreme it may serve to illuminate for him the ends of action. While these influences may not affect everyone or lead inevitably even those whom they do affect to good activity, they are the most important ways in which literature, according to Aristotle, may be expected to operate in the moral process, and as such they must be examined severally in detail.

Even to inferior natures not otherwise immediately responsive to literary influence there is a peculiar service, according to Aristotle, that literature can render directly by improving the disposition. The better the disposition, of course, the better the activity it will manifest; and there is a curious beneficial impact that Aristotle felt some types of literature might have, especially on defective dispositions. In terms of our foregoing analysis the celebrated doctrine of purgation is best interpreted as bearing directly on affective capacities, which admit, as we have seen, of considerable variation. Now some natures can be very easily and powerfully moved. Although Aristotle did not regard an emotional condition of very high susceptibility as particularly fortunate, he believed that, where it existed, it would almost inevitably express itself; and where not diverted into channels of harmless expression, it would lead to extravagant conduct. Since "people of excitable nature always need healing,"[19] they may find it advantageously in certain kinds of music, especially that of the flute,[20] and in certain kinds of literature, notably the drama, which arouse the emotions.[21]

> Feelings such as pity and fear, or again enthusiasm, exist very strongly in some souls, and have more or less influence over all.

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[17] *Ibid.* 1179b 10-13, 1180a 4-5.

[18] Law and letters may well exhaust the instruments of moral pedagogy. They are coupled in the service of good habit formation in a passage of the *Politics* (1263b 40): *kai te philosophia kai tois nomois.*

[19] *Nic. Eth.* 1154b 11-12. We have kept Ross's "excitable" for *hoi melancholikoi,* a wider term in Aristotle than our "melancholic." Cf. *Prob.* xxx. 1. 953a 10 ff.

[20] *Pol.* 1341a 21-24.

[21] *Poetics* 1449b 27-28

> Some persons fall into a religious frenzy, whom we see as a result of the sacred melodies . . . restored as though they had found healing and purgation. Those who are influenced by pity or fear, and every emotional nature, must have a like experience, and others in so far as each is susceptible to such emotions, and all are in a manner purged and their souls lightened and delighted.[22]

In so far then as various types of literature, principally types of fiction, have the power to evoke the emotions of various people, they may be applied as a relatively harmless relaxation to high-strung dispositions that otherwise would stand in danger of harmful explosion. Thus vicariously an overcharged emotional capacity may find release and the nature be purged or stabilized thereby.

Unfortunately we do not have the elaboration of this doctrine, to which Aristotle refers in the last book of his *Politics*.[23] Consequently it remains open to much discussion, even if the conservative interpretation[24] that we have given is correct. One would like to know for example how Aristotle developed his implication that every emotional tendency could be purged, and not merely those to pity and fear. Would each be relieved only by its own expression, a tendency to anger by anger and to desire by desire; or could general emotional tension be relieved by the expression of any particular emotion? Furthermore it might be objected even on Aristotelian grounds that such stimulation of emotional activity would tend rather to produce a habit of excessive response. How can this doctrine that recommends the letting off of emotional steam be plausibly reconciled with the doctrine that habits are begotten by activities? Even if it be replied that occasional relaxation makes ultimately for greater endurance and that an outlet in fiction is to be preferred to one in fact, can we believe in any case that the passions of desire would be purged rather than intensified by vicarious probing? Finally, if we accept the doctrine of purgation, we should wonder what the effect of like reading would be on relatively unexcitable natures. If natures that are too excitable are restored to a normal condition, would not phlegmatic natures be drained of all the responsiveness they have? Whatever the answers to these questions may be, the cathartic principle must be mentioned in any consideration of Aristotle's views of the moral effects of reading; and it may most simply be understood as implying a therapy that restores to an ordi-

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[22] *Pol.* 1342a 5-15.

[23] *Ibid.* 1341b 39-40.

[24] Conservative, that is, of Aristotle's texts: strict construction of Bernays. Cf. John Crowe Ransom, "The Cathartic Principle," *American Review,* V (1935), 287-300; A. H. R. Fairchild, "Aristotle's Doctrine of Katharsis," *Classical Journal,* XII (1916-17), 44-56; Herbert Sanborn, "A Side-Light on the Katharsis," *ibid.,* XXXIII (1937-38), 322-35.

nary state such dispositions as tend to excessive emotional activity, thereby fitting them for more appropriate reaction to the pressure of daily life.

Beyond the contribution that literature may thus make directly to the improvement of moral condition, it may be very useful indirectly in helping a person determine what his disposition or moral equipment is. Unless a man knows himself in the sense of knowing his inclinations to passion and action, and above all his weaknesses in these respects, he cannot make any systematic attempt at self-discipline. In order to be on guard, like Achilles during the interview with Priam, against provocative circumstances, a man must know to what affections he is most susceptible and what occasions produce them. Although it is probably true that short of actual observation of an individual amid the various stresses of life, it is almost impossible for someone else to form a satisfactory estimate of his ethical state, the individual in taking his own inventory may be able to use other sources of information including literary aids. Aristotle remarking in this connection that "we are not able to see what we are from ourselves," suggests that

> as then when we wish to see our own face, we do so by looking into the mirror, in the same way when we wish to know ourselves we can obtain that knowledge by looking at our friend.[25]

The point may be extended to include the friendships of fiction. Not only does imaginative literature hold a mirror up to nature in general, but in a particular way it may hold a mirror up to ourselves. As we tend to sympathize with those who are like us, and most with those who are most like us,[26] some indication of our disposition may be found in the sympathies we feel for men and women of both our factual and fictional acquaintance. In those temperaments that most deeply engage our sympathies we should consider at least the possibility of a high degree of resemblance to ourselves.

Furthermore in attempting to schematize the fruits of our scrutiny we should do well to consult those portions of psychological works that treat of the emotions, their interrelations, their antecedents and consequents. As we study in fiction the particular temperaments of individuals, so we find in psychological works theoretical schemes of analysis for the convenient and orderly interpretation of the data we have obtained.[27] If a knowledge of one's own disposition, then, is

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[25] *Mag. Mor.* 1213a 15-23.

[26] Cf. *Rhet.* 1371b 12 ff.

[27] Cf. *On the Soul* 402a 1 ff. Yet Aristotle's own most important treatment of the emotions independent of ethical contexts occurs not in the treatise *On the Soul* but in the *Rhetoric* (ii. 2-11). His statements on temperament as a whole, scattered throughout the corpus, the author hopes to examine in another paper.

prerequisite to intelligent effort toward moral self-education, in so fa as skilful delineations of men and women sharpen the observation o emotional states, and scientific treatises clarify the understanding o them, such writings have an important preliminary role to play i the moral development of those who are refined enough to use them.

Indeed it requires no little refinement to examine carefully and wit some success the moral stuff we have to work with. Yet even if w know ourselves, there is little use we can make of that knowledge unle we are able also to perceive clearly and constantly the moral ends w should work toward, that is to say, the appropriate passions an actions, or more generally the good activity and conduct to which th capacities of all of us in some measure tend and which all of us conse quently in some measure are able to perceive. Although Aristotle fe that literature could, in the special manner we have noticed, ameliora the disposition as well as help to understand it, he did not believe tha literature could infuse the perception of right conduct, but could onl illuminate it for those who either by nature or as the result of habituatio were already able to see it.

The discriminatory powers of a man who moves exclusively within th orbit of his own existence are likely to become blunt, partly becaus individual experience is so limited, partly because the individual is biase in his own favor. By looking to the conduct of others we enlarge ou vision of possible situations and performable actions, and we can tak advantage of the objective estimate we make of actions not our own. Since our response to representations is almost as keen as to reality,[28] there can be no better tableau for our inspection than that of grea literature. In fiction we shall find abundant examples whereby t refine our judgment of particular actions:

> Since . . . virtue has to do with rejoicing and loving and hating aright, there is clearly nothing which we are so much concerned to acquire and to cultivate as the power of forming right judgments and of taking delight in good characters and noble actions; but rhythms and melodies supply representations of anger and gentleness, and also of courage and temperance, and of all the qualities contrary to these, and of the other qualities of character, which hardly fall short of the true natures of real life, as we know from our own experience, for in listening to such representations our souls undergo a change.[29]

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[28] *Pol.* 1340a 23-25.

[29] *Ibid.* 1340a 14-23. What Aristotle predicates here of rhythms and melodies would seem to be even more predicable of the words they accompany. Hence Susemihl's conjectures on the whole passage 1340a 12-23 (Susemihl and Hicks, *The Politics of Aristotle* [London: Macmillan, 1894], pp. 90, 591-92) are attractive, although not essential to our interpretation. In order to bring out the modern applications of the doctrine in the account that follows, we use "fiction"

t is true that if we are not naturally responsive to noble action, the pectacle of it may not move us at all, or may even appear ridiculous; ut if we are responsive thereto, our power of discrimination may be xercised and perfected in studying lively literary portraits of the char-cters and actions of men and women at whose excellences and defects ve shall grow accustomed to feel pleasure and pain. It is important, of ourse, that the writer himself have a high moral consciousness, for hould his own sympathies be misplaced, the reader of uncertain judg-nent may be led completely astray.

Such study is for two reasons particularly suited to the stage of youth. In the first place "music" or fictional literature "has a natural sweetness," and "young persons will not, if they can help, endure anything which is not sweetened by pleasure."[30] In the second place, fiction is replete with specific and variable actions of life that constitute the facts or start-ing points of moral philosophy.[31] In accordance with the pleasure or pain felt at contemplating them intuitive reason will grasp the merits of particular actions, whence alone it becomes possible to comprehend the generalizations therefrom that ethical treatises make. Once a man is sufficiently provided with examples drawn either from life or from literary representations, then a study of ethics may profitably supervene to crown the illumination that literature can cast on the ends of action.[32]

Besides enabling those with self-knowledge to guard themselves more carefully against misconduct, the most desirable moral effect of a knowledge of ends would lie in stimulation to good conduct. At the level of philosophic abstraction,

> true arguments seem . . . most useful not only with a view to knowledge but with a view to life also; for since they harmonize with the facts they are believed, and so they stimulate those who understand them to live according to them.[33]

In other words, by coming to value actions of a certain kind we are encouraged to perform any specific instances of them that individual circumstances propose for us. Again, at the level of fictional particularity, if we judge rightly of the actions of others, admiring the noble and deploring the base, we may be brought in analogous situations to imitate their good activities and thence to acquire their good

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freely, instead of rhythms and melodies, to cover artistic imitations of the characters and actions of men.

[30] *Pol.* 1340b 15-17.

[31] *Nic. Eth.* 1143b 1-5; 1095a 2-4.

[32] A treatise like Aristotle's own *Ethics,* and treatises in political science generally, as Aristotle understood the term, would provide knowledge of the ends of action. Cf. *ibid.* 1094a 1 ff.

[33] *Ibid.* 1172b 3-7.

qualities.[34] Literature may even be used for direct imitation, as it is in school dramatics, whereby we actually reproduce the imaginary situations. Here Aristotle's stricture would carry over from ancient music, namely, that we should take part ourselves only in "the most ethical modes,"[35] or as we should say, only in the roles of good characters. In reading or in listening to the performances of others our judgment is exercised by the bad as well as by the good; but as soon as we participate, instead of judges we become agents, who should practice only what is good.[36]

Yet Aristotle forever remained doubtful whether any large number of people would be sufficiently inspired by the mere contemplation of good activity to desire the like and finally to choose the like for themselves.

> As things are, while they [true arguments] seem to have power to encourage and stimulate the generous-minded among our youth, and to make a disposition which is gently born and a true lover of what is noble, ready to be possessed by virtue, they are not able to encourage the many to nobility and goodness.[37]

Inferior people may be aided by literature to see the better and approve it, but they will continue like Ovid's Medea to follow the worse.[38] Hence, as we have seen, they will require a large measure of external authority to be habituated in accordance with good activity. Only superior natures from the start, and inferior natures after they have been sufficiently chastened by sterner measures, will be amenable to other kinds of guidance. Habituation in them will not have to be imposed from outside, but will proceed as a matter of self-imposition.

Toward achieving this goal for the majority literature can but be ancillary to the law, whether of household, community, or state. While it is not indispensable, as the authority of the law, it is more useful than the random impact of life. Indeed life may work any of the effects we have observed for literature: it furnishes ample occasions for the release of excessive emotional capacity, and it offers the panorama of mankind for the study of the means and ends of action. In the former case, however, release through literature is to be preferred; in the latter the panorama of life is too diffuse to be used effectively. It is a matter of chance what natures we shall meet and how carefully

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[34] Cf. *Prob.* 951a 4-10.

[35] *Pol.* 1342a 2-4.

[36] Incidental, "extra-curricular" dramatics is the closest analogy we have to the choruses that gave Greek youth such frequent opportunity to use their "music," words, rhythms, and melodies alike, for purposes of direct imitation, and hence attracted such profound attention from Plato and Aristotle.

[37] *Nic. Eth.* 1179b 7-10.

[38] Cf. *Mag Mor.* 1208a 30 ff.

we shall be able to observe them. For this reason fiction is even more usable than history, since history must confine its report to the imperfect knowledge obtainable of people as they chanced to be. Fiction that is drawn at the level of life affords the most concentrated view possible of the dispositions and actions of individual human beings. Psychological and ethical treatises help us to general concepts of human nature and judgments of human activity. These are the kinds of literature that Aristotle indicates may most successfully be used as handmaidens of authority in forming the character of the recalcitrant many and as independent sources of stimulation in perfecting the character of the sublime few.

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NOTES AND DISCUSSION

A Plea for Understanding

If we Catholic philosophers know that many very able thinkers outside the fold discover scarcely any real meaning in our philosophy (our theology is well-nigh totally opaque, of course!), we are not, most of us, sufficiently moved by that sad knowledge. We talk before we have listened; we "refute" before we have understood.

To cite one common and fundamental case of unawareness of our positions: many moderns find it acutely difficult to conceive even the possibility of first philosophy in the traditional sense. To them, that ancient phrase, "being as being," which we glibly use to designate the "formal object of metaphysics," is an absolutely meaningless repetition of a word that has no existential significance at all. For in their eyes "being as being" means "being as such"; and "being as such" means "being-in-general." But what could be more evident, they ask, than that "being-in-general" does not stand for any existent thing at all? Obviously, this term expresses a mere abstract idea. So, while granting that "being" is the most universal of all universal ideas, these moderns do not fail to remark that, for this very reason, "being" does not signify anything real. They are therefore convinced that "being" cannot be the "object" or the "subject" of any kind of science.

For many modern thinkers, this conclusion is in essence nothing more than a simple, common-sense inference, calling for no backing by history or tradition, though it is, they believe, made all the more conclusive by the weighty support of a long line of great philosophers. Let us notice three of the greatest. Kant proved, by irrefutable logic, that "being" is not a predicate; Berkeley established at least this point, that abstract general ideas do not give us any real knowledge of things as they really are; and Hegel pointed out that the idea of "pure being" is indistinguishable from the idea of "no-thing."

Is it necessary, these moderns say, to remind the Aristotelians and the Thomists that every science requires a definite subject matter? Are they unable to see that "metaphysics," as a "science" of "pure being" or of "being as being," is a corpse—which, as a matter of fact, never had any actual life in the first place? Is it not clear to them even yet that "metaphysics" is the name not of a science but of a mistake that old Aristotle made some twenty-two hundred years ago?

This is only one illustration of the immense, multiplex problem that we Catholic philosophers face (and not only in the fields of philosophy and theology) of communicating with our fellows outside the tradition of the Church. Some, shutting themselves up in an un-Catholic isolationism, feel that the difficulties are insuperable. But the laws of charity and of hope which, thank God, bind us all, require that the effort be made. On all levels, the Church tells us, try always—with the greatest possible ingenuity and patience, understanding and zeal—to remove every obstruction that lies in the path of truth!

Not by our merely reciting old formulas and expounding doctrine in the customary "doctrinaire" way will modern men be brought to appreciate the actual sense of any of the root terms in our philosophical and theological lexicons. Nor by our facile "refutations" shall we ever convince them that we are not unphilosophical propagandists. For us, as well as for them, the first thing necessary is the dialectical and critical and, yes, metaphysical, work of digging through the verbal layers of our thought in order to uncover the substance beneath. Then, and then only, shall we be in a position to begin to understand one another. In this whole process, not only a great deal of mutual good will is required but also a great deal of inventiveness—rhetorical, dialectical, and philosophic. These two requirements, save in rare instances, have not been adequately met by either party. For example, on the Catholic side, there is a crying need for inventiveness in the use of language. Without sacrificing a shred of essential meaning, we must find new ways of speaking our minds. That we are not understood must in considerable measure be attributed to our own verbal complacency. We have scarcely begun to exploit the rich resources of our native tongues. Though the basic formulas must be retained, they must be made to live. But since language is only a medium, the primary need is for understanding.

Thanks to the creative and apostolic wisdom of a few men, there is in the world today an organically vital Christian philosophy. But where that philosophy receives improper nourishment, it becomes feeble or deformed; and where it is not adequately and constantly nourished, it shrivels up and finally dies. For philosophy is not a static set of principles but a dynamic disposition of living minds. And like other vital things, when it ceases to assimilate it ceases to live.

We have our model, St. Thomas Aquinas, the Christian Doctor par excellence. St. Thomas listened patiently to all sides, and then he spoke; he worked tirelessly (and with what success!) to understand the mind of his age and of every preceding age and to incorporate into Christian wisdom all the truth he could discover, even turning error to good account. Let us then try to live philosophy in our day as

St. Thomas lived it in his, sharing with him the conviction that the destiny—the very *raison d'être*—of Christian wisdom is to convert into its own substance all that is true in every philosophy.

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THE MEDIAEVAL INSTITUTE AT NOTRE DAME

The newly constituted Mediaeval Institute of the University of Notre Dame was formally opened on Sunday, February 2. Solemn Mass was celebrated at 9:00 o'clock in the Sacred Heart Church, Notre Dame, by Father Gerald B. Phelan, Director of the Institute, assisted by Father P. E. Beichner, C.S.C., deacon, and Father J. N. Garvin, C.S.C., subdeacon. The sermon was preached by Father P. S. Moore, C.S.C. The inaugural lecture, "The Mediaeval Institute of the University of Notre Dame—Its Significance in Higher Catholic Education," was delivered at 8:00 o'clock in the evening in Washington Hall by the Director of the Institute.

BOOK REVIEWS

ETRE ET AGIR. By Joseph de Finance. Beauchesne, Paris, 1945. Pp. viii + 371.

More and more the philosophy of St. Thomas is being recognized as an existential dynamism, that is, a fulfillment, a completion of the *to be* by the *to act;* and this is the profound subject proposed in *Etre et agir* by one who has carefully studied the texts of Aquinas. The result is exceptional. *Etre et agir* is really an important book for it gives an insight into one of the most difficult problems of metaphysics, namely, that of action in its relation to the act of existence.

According to Father de Finance, the dynamism which we find in this world of limited beings results from the fundamental distinction between essence and *to be,* for the imperfection implied by such a distinction necessitates action, which is a search after perfection. Action, then, is a mere continuation, an efflorescence of the act of existence, by which being is in act. For a being acts in so far as it is in act.

When we envisage being, limited being, a being which is the outcome of the creative act in its internal exigencies, we find it tormented by a desire of nature which reaches even to the infinite from which all creatures emanate. Such a dynamism, however, does not postulate a pantheistic outlook, since the subject of this action, being limited by some potency, is radically excluded from the Pure Act. Carried along by a natural desire which comes from God and which somehow—mediately or immediately—must return to God, this being of a created universe is constantly tending to its perfective evolution. That is why a philosophy which faces this comprehensive problem must needs be an existential dynamism.

Action, then, whether it be the act of a perfect or an imperfect being, is simultaneously an overflowing of the perfection of the *to be* and a perfecting of its neediness. This paradoxical but profoundly correct analysis of action is a necessary preamble to any satisfactory solution of the perfective evolution which we find in this world. We must say, then, that these existing natures, because of their imperfection, must seek the perfective good; and it is only by means of action that they can hope to reach the fullness of their perfectibility.

We should remark that this perfective good, which is conceived as existential since it signifies perfectivity, implies in its concept the very dynamism of being. The reason is that the reality of the existential good establishes the realism of the appetite. What is this realism, this mysterious immanence of the appetite, which most carefully be distinguished from the formal immanence which we call knowledge? Like knowledge it is undoubtedly a similitude, not however a formal similitude, but rather a dynamic proportion, whose type and foundation is the transcendental relation of potency to act.

This proportion, we note, relates to the existential order. For it is peculiar to the appetite that the object be present not according to its intentional mode of existence, but under the aspect of its concrete existence. This is why it is vain to try to build a metaphysics of action upon logical determinations, as many have tried to do. We should not wonder, then, at the inherent obscurity of our concept of a dynamism of appetite. For, as we have suggested, it is viewed under its existential character. Now the existential order transcends the essential character of our intellectual knowledge. That is why we must explain the mystery of *becoming,* or of action, by the mystery of *esse,* and the mystery of existence by that of being.

Nor does the fact that an existential dyamism is not directly intelligible weaken in any way the fundamental intellectualism of the philosophy of St. Thomas. For at the point of departure of all true metaphysics, we must establish the certitude of an essential accord between reality and the intellect. Thought must be shown to subsist only because of being, from which it cannot turn away, for thought is defined only in function of being. This is the realistic intellectualism of St. Thomas upon which the dynamism which flows from a desire of nature for a becoming must be established. We may say, then, that the profound consideration of being is the safeguard as well as the foundation of the reality and necessity of the *to act.*

We must conclude, then, that Thomistic metaphysics is said to be existential, not in the sense that it apprehends concrete individual existence, but rather abstract existence, the existence conceived in the analogical unity of its reality with the various essences. And finally we should add that the philosophy of St. Thomas is an existential dynamism because it places the foundation and the term of all individual existences which are limited by distinct essences in the One who is existence, infinite and subsisting.

In view of the excellence of this book, we regret to state that there are some pages which are not in keeping with the high perfection of the work as a whole. In his effort to show that action is a resultant

of *esse,* the author proposes certain theories which are not only difficult to recognize as those of St. Thomas, but which seem a direct denial of some of the fundamental principles enuntiated previously. We need point out only two or three examples.

Throughout the book, Father de Finance, because he wants to emphasize dynamism, necessarily emphasizes the all-important reality of action. Yet he does not hesitate to write that, according to St. Thomas, the last six categories—and these include action—are extrinsic denominations. To explain his position, besides the usual *In III Phys., lect. 5*—which proves little—he cites a text of the *De Potentia* (7. 10 ad 8). This text reads: "Denominatur enim homo ab actione . . . et ab aliis hujusmodi quae realiter non sunt formae." Action, then, because it is not a form, must be reduced to an extrinsic denomination. Now action is primarily a becoming (*motus*); but a becoming, a motion, although not a form in the strict sense, is nevertheless a distinct reality. Consequently, because man is denominated by action, it does not follow that action is a mere extrinsic denomination. We must add in all justice that Father de Finance constantly insists that action is a reality; but this affirmation is not made clearer by adding that it is an extrinsic denomination. It might perhaps help to do away with much of this obscurity by giving an analysis of the true definition of action, a definition which includes both *motus* and a real relation in the agent. *Actio est motus ut ab hoc.* Hence it does not seem correct to assert: ". . . pour saint Thomas l'action ne se réduit pas *toujours* à une pure dénomination extrinsèque" (p. 251; italics mine). It *never* does, since action is a real becoming (*motus*) in the patient and since this becoming connotes a real relation in the agent. Consequently action cannot ever be reduced to a mere matter of extrinsic denomination. Indeed if this were true, the *fieri* would be a being of reason, and secondary causality an imaginative dream.

From such misapprehension of the meaning of action, we are led into what seems a more radical error. "Nous serions donc conduits à affirmer l'unité existentielle de l'agent dans l'action" (p. 242). Now, while Father de Finance uses the subjunctive mood "nous serions," implying perhaps a certain hesitation as to the truth of his statement, he seems willing nevertheless to accept the existential unity of accident with substance as a fact—at least as regards the proper accidents—as well as action. We should like to point out that this doctrine is certainly not that of St. Thomas. The Angelic Doctor insists that the reality of the *to act* is not only distinct from the substantial essence (*ST,* I, 54. 1), but from the substantial *esse* as well (*ST,* I, 54. 2). The reason he offers is the limitation and the determination of the *to be* by

a distinct specific nature. "Esse autem cuiuslibet creaturae est determinatum *ad unum* secundum genus et speciem" (*ibid.*). It is difficult to understand how such a determined *substantial to be* could actuate the *accidental* realities, the actions which are being constantly produced. For as St. Thomas explains: "Ipsa essentia angeli [and a fortiori the essence of man] est ratio *totius sui esse,* non autem est ratio *totius sui intelligere*" (*ibid.,* ad 2).

Finally, as a necessary result of his theory of action, Father de Finance sees no reason why there should be postulated a divine motion to actuate the creature in order that it may act, that it may produce an action. For, he argues, the reason for a divine motion is "expliquer le passage de l'agent de la puissance à l'acte. Mais d'abord, il est inexact que ce passage [from potency to act] soit essentiel à l'agir" (p. 231 n. 1). We need not elaborate further, for it clearly appears that such a principle is not in accord with the fundamental principle of St. Thomas that nothing can pass from potency to act unless it be actuated by one that is in act. However, it may be objected that the creature is already in act, since it exists. We may answer with Aquinas that it is true that if a creature were its own *to be,* it would be in act to act, it would always act, and its act would be identified with itself—it would be God. But because of the real distinction between essence and existence, the creature is actuated by the *to be* only in the order of existence. In order to act it is necessary that its potencies, which are distinct from its nature and which are not in act to act, be actuated successively for each distinct operation. To deny this is to deny that essence is distinct from the *to be* in creatures; it is to deny that creatures are creatures.

In spite of these inaccuracies, we should like to repeat that the book is of great value. Perhaps in a later edition, the author may revise those few pages which mar the perfection of *Etre et agir.*

Henri Renard, S.J.

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Power and Events: An Essay on Dynamics in Philosophy. By Andrew Paul Ushenko. Princeton University Press, Princeton, 1946. Pp. xxi + 301. $4.00.

In spite of the opposition between idealism and naturalism in American philosophy today, there have been several important attempts at securing a minimal unity. To the works of Sheldon and Pepper can now be added this essay, *Power and Events,* which Ushenko intends as a preliminary discussion clearing the way for a fuller statement. His claim is that a dynamic philosophy can do justice to the classical regard for eternity and the method of rational analysis as well as to the modern

romantic cultivation of temporal process and intuition. Unlike the radical empiricists and naturalists, he is unwilling to reject metaphysics entirely, even though there is need to reconstitute it upon a new and empirical basis. It is surely a wiser procedure to make patient and detailed tests of fundamental doctrines of the past considered philosophically in their own right than to disqualify them in an a priori way because of changes in the scientific outlook. The author is of a different temper from Professor Northrop and is careful to point out that, on a perspective view of truth, philosophy is not subject to the kind of progress which would prevent definitive gains and a constant return to the problems and solutions of other times. Readers of Ushenko's previous books and articles will be grateful for a general statement of positions which he had previously left incomplete or implicit. In four studies on truth, power, events, and concepts, he has provided the outlines for a new synthesis centered about a dynamic view of being and knowing.

Several recent theories of truth are reviewed, the main ones being the conformal and transformal accounts. On the former view, thought is held to aim at an exact reproduction of reality, so that truth is found in a proposition when it duplicates the object in discourse. It is not difficult to point out the deficiencies in this theory, for it fails to allow for the proper interpretative activity of the inquirer. But the shortcomings of the map-and-territory version of knowledge need not drive us to the radically transformal position held by many instrumentalists today. The danger at this extreme lies in the temptation to treat cognition as an arbitrary process which lays down its own conventional stipulations as in a game or as in the prescriptive attitude of logical empiricism. Dewey himself, when pressed with this conclusion, is forced to grant a distinction between the existential conditions, which need not be completely undetermined, and a meaningful situation wherein logical interpretation must play its part. Inquiry cannot be the sole determinant of truth, although it may determine the conditions for relevancy. The situation itself exerts an amount of control by presenting specific structures as definite testable natures which are or are not able to fit in with the requirements sought by cognitive interest. Otherwise, there would be no warranted foundation for a particular situation's being designated as suitable to a certain inquiry.

Ushenko's own theory of truth is presented as one of conformal transformation or perspective, obviously a middle way between exact duplication and thoroughgoing stipulation. Since it is presented in terms of a kind of actualization, this theory approaches to an ontology of knowledge. Although the situation which is to be inspected has a specific structure and a definite group of tendencies of its own, it remains

determinable from the standpoint of the inquirer who has not yet satisfied himself concerning the objective conditions. The passage from a power to be cognitively determined to actual determination in a proposition is an instance of realization. Since there is a modification or transit, truth is not a simple duplication. And yet the percept and conceptual proposition do not distort the situation or produce an event ungoverned by objective capacities. A definite tendency comes to fulfillment in perceptual knowledge, enabling the proposition to make a valid assertion concerning a state of affairs outside of the elements of discourse. This objective assertion or claim to truth is made possible by what the author terms the process of conceptualization, which is equivalent to the ability to stabilize and generalize the objects of perception as well as to refer the actual percepts to the order of real things.

Up to this point, it might seem that we are dealing with a modern approximation to the problem of knowledge in terms of the older act-potency metaphysics. No mention is made, it is true, of the active and receptive abilities in the sense of cognitive powers. But Ushenko is clearly aware that knowing involves a certain becoming and a realization of powers, even though he is not concerned with determining the agencies more exactly from the standpoint of the knower. His main regard is for the object, and hence he is led to define things as powers and to associate substance with power rather than with act. This procedure takes advantage of the ambiguity of the English word *power,* which can be taken in both an active and a passive sense. For the thing is viewed as a power both because it is the inexhaustible source of dynamic tendencies which reach the inquirer as vector forces directed inwardly as from an objective origin and because it is cognitively determinable from so many viewpoints. There is a correlative obscurity raised by the use of *actual.* Nothing is allowed to be fully actual unless all the tendencies *of whatever order* to which it gives rise have been completely and specifically realized. Thus the world of things, although it is determinate in structure, is a world of powers rather than of acts because there are innumerable ways of viewing things which have not been embodied in actual perspectives. No clear distinction is maintained between physical and cognitive modes of actualization.

A valuable comparative study might be made of the author's distinction between fact or determinable situation and the actually perceived event and the Scholastic distinction between *res* and *objectum.* But in examining the passage from potential to actual intelligibility, we must consider what it is that is being perfected and how this process still allows for objective reference in the existential judgment. After a lengthy dis-

cussion of this problem, the rather unsatisfactory conclusion is reached that

> external reference is possible because the referent is both within the proposition and outside it. But to say that this is possible is not yet to specify the way it actually takes place. The way is through assertion. . . . As to the nature of the assertive element within a proposition I have nothing further to say, and suspect it to be ultimate and unanalyzable (pp. 241-242).

In the course of the investigation which precedes this final statement, Ushenko touches briefly upon and dismisses the solution of Meinong and Husserl (p. 238). Although no mention is made of Brentano at this point, it is obvious that it would have been advisable to consider the theory of intentionality as set forth by this philosopher and by his Scholastic and Aristotelian sources. Intentionality is not meant by them as a denial that cognitive reference is a relation, but only as a denial that it is in every respect a mutual relation. Unless a distinction is allowed between the intentional and the physical mode of being, the statement that the referent must be somehow both present in the proposition and outside it will be no explanation, but only a mysterious claim to what *should* constitute the conditions of truth.

The question of presentation or representation is not settled by declaring it a happy chance that the referent is both a thing and an item of discourse and so can be directly asserted conceptually in its former status. There must be insight that it is the same nature in the real order about which the judgment is being made. To justify this insight, it is impossible to refrain from considering the nature of the assertive power and the difference between the intentional and the physical way of actualization. Only then can a reason be given why and how the propositional act affirms the thing not as a power to being but in its own very act of existence. In the assertive or existential judgment is realized not the factual being of the situation but the power of affirming this situation as a *recognized* actual fact. Nor does this require an impossible kind of self-transcendence, if it be acknowledged that portrait-likeness and symbolic function are not the only kinds of similarity. But the theory of intentional signs would lead to a broader discussion of the relation between thought, sign, and thing.

One reason assigned for denying any sort of representative relation is that fact and percept are entirely different orders of being, since they are related as potency to act (pp. 206-207). Apart from considerations mentioned above, I suggest that Ushenko is here the heir to the difficulties inherent in the Cartesian-Lockean view of power and motion. This modern tradition is concerned chiefly with a quasi-image of physical power rather than with real potency, and consequently it accords to the image of power the same independence which it grants to the image of

act. Hence Ushenko allows that under ideal conditions potency is or would be just as real as act. He admits that whereas Aristotle considers potentiality relative to the context of a thing, he himself treats it as an absolute mode of being (p. 61). Yet he is rightly on guard against any (imputedly traditional) autonomous conception of substance, for every power demands involvement with other powers and with actuality (p. 115). Similarly, the coexclusive view of act and potency is rejected (but again is wrongly imputed to the traditional metaphysics). In actual fact, however, the only intimate relation recognized in this book is a physical one in terms of mixture or a psychological one in terms of blurring, strain, and satisfaction. To avoid the charge of subjectivism, it would be necessary to ground physical metaphors and psychological experience upon metaphysical reasons. Aristotle's doctrine on act and potency is presented here (pp. 136-139) only in an inadequate summary of the ninth book of the *Metaphysics*. When his entire teaching is taken in conjunction with the notable Thomistic advances, it would become evident that there has been some fundamental investigation of substance in terms of potency and act, of the specification and manifestation of powers, of inward and outward vectors (cognitive and conative forces), of the essential ordination of potency to act, and of the mutuality of proper act and proper potency.

Ushenko raises these and many other issues which are worth weighing again in the light of modern problems and evidence. He brings to his analysis the same dialectical keenness and honesty which were displayed in his earlier writings. Will it be regarded as a shameless plea *pro domo* to suggest that the suspicion of taking a nonempirical path should not prevent further studies in the Aristotelian-Thomistic metaphysic of act and potency as an aid to the development of an adequate dynamic philosophy?

JAMES COLLINS

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BOOK NOTICES

Scientific Man vs. Power Politics. By Hans J. Morgenthau. University of Chicago Press, Chicago, 1946. Pp. 245. $3.00.

Professor Morgenthau of the University of Chicago has applied his critical powers to a basic malady in liberal democratic thinking about international relations. The malady is that of trying to frame foreign policy purely on ideological assumptions. He rightly contends that a foreign policy takes its shape, not from free choice, but from necessity; and that geography, national character, tradition, and the actual distribution of power are determining factors beyond the control of any government.

That he has put his finger on a weak spot in our political thinking we know from recent experience. Far too many Americans insisted that we took part in World War II to plant the Four Freedoms everywhere. This object was impossible to attain, and disillusionment followed our failure. Walter Lippmann consistently stuck to the prosaic explanation that we had to fight in self-defense. We were well into the war, however, before President Roosevelt named it "a war for survival." More recently, American policy has been "pressured" into an attack on General Franco's regime in Spain, *not* because that regime presented a threat to American interests, but purely because of the supposed ideological viciousness of the Spanish political system. Our profound need of a friendly Spain to offset the expansion of Soviet power has been ignored. One can be absolutely sure that Soviet policy is more interested in the power aspects of a break between Spain and the western democracies than in its own ideological antagonism. The Stalin-Hitler Pact of 1939 should have taught us the elementary facts of Soviet policy. Why Walter Lippmann himself has succumbed to this substitution of ideological for political reasoning is a question to which no rational answer can be given.

The author seems to have telescoped two separate problems. In *foreign* affairs, which are less amenable to rational control, we have exaggerated ideologies and undervalued power-factors. A treatise could be written on the sources and effects of this error, although it would have to take more account of moral issues than does this present volume. In *domestic*

affairs, which are more amenable to rational control, many thinkers exaggerate technological techniques ("planning," social security, schemes of full employment, etc.) and undervalue the role of human selfishness, pressure-groups, national traditions, personal ambitions, and other factors falling under the heading of "politics." This latter conflict might be described as scientism vs. politics. But Professor Morgenthau has translated these two problems into the single one of *Scientific Man vs. Power Politics,* thus taking one term from each of two different problems. Fortunately, since his book deals more with international relations, he unmasks the folly of thinking in terms of ideologies, without connecting this folly very closely with the scientism he condemns.

Morgenthau exposes the incompetence of rationalism (and scientism, its modern counterpart) to deal with the irrational in human life. This is a just criticism, but Morgenthau does not know how to deal with it either. For his ethics turns out to be based on the supposed corruption of man above all in politics. He rushes into the problems of the twofold effect and the lesser of two evils very clumsily, for he is at a loss how to salvage moral goodness, private or public, in the complex world in which we live. He accepts evil action, and calls it statesmanship.

His volume may become a "vogue," because he has hit secularists where they are vulnerable. But all that can be said for *Scientific Man vs. Power Politics* is this: it issues a timely warning that old-fashioned statesmanship would produce less evil than the misguided optimism of men who try to "blueprint" the world of politics. But old-fashioned statesmanship failed to establish peace on the basis of power. What we need, of course, is *ratio practica* in statesmen, and the continual effort to elevate the moral quality of mankind. Discouraging as the prospects are, it is more discouraging to abandon the only means by which human life can be made more civilized.

Robert C. Hartnett, S.J.

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Existentialisme et pensee chretienne. By Roger Troisfontaines. Vrin, Paris, 1946. Pp. 90.

In the concluding pages of the latest edition of *Le Thomisme,* Gilson makes passing reference to the modern positions which have claimed the name of existentialism. He maintains not only that Thomism is existentialist, but also that it is the only genuine form of a philosophy of existence. The question was taken up again from a somewhat different standpoint by Father Troisfontaines, S.J., in a study appearing in *Nouvelle revue théologique,* an expanded version of which article has now been issued in booklet form. The problem posed in this work

is one of pressing actuality for European minds: is existentialism as currently presented compatible with Christian revelation?

In order to prepare the way for a fair answer to this question, Troisfontaines first considers some characteristic traits of the existential way of thinking. He points out quite rightly that no effective treatment is possible if "existentialism" is taken *en bloc* as signifying one homogeneous body of doctrine. There are not only shades of difference among the leading existentialists, but in many cases the disagreement is radical to the point of rupture on all but a few points of method and doctrine. Hence a brief and necessarily hasty sketch is given of the positions of Kierkegaard, Heidegger, Jaspers, Marcel, Sartre, and Camus. Only in the case of Sartre is the author's treatment marred by excessive reliance upon psychiatric analysis of character, a fault carried over from Troisfontaines's book on Sartre, *Le Choix de J. P. Sartre*. It is also questionable whether the use of Heymans's characterological classifications contributes anything to the philosophical study of these men. The author would group them all as belonging to the type of *surémotifs-inactifs* and by the same criterion would include Augustine and Pascal in this class. But Heymans's psychological interpretation of action, thinking, and affectivity is itself open to serious challenge and has been wholeheartedly accepted only by Le Senne among the *Philosophie de l'esprit* group.

What is found to belong in common to all these existential thinkers is the primacy accorded to personal subjectivity (which is to be distinguished both from subjectivism and from introversion). They emphasize the close link between truth and concrete experience. By remaining close to the individual and the attitudes which he freely engenders before his situation, they hope to develop a philosophy of human existence and even, in certain instances, of being in general. The use of this method of concrete analysis is held by Troisfontaines to be compatible with Christianity and even akin to the spirit of the Gospels. And in opposition to the fears of a Barthian theologian, he affirms the soundness of a philosophy which champions human freedom and responsibility as well as the significance of history since the Incarnation. Just as the existentialists take existence in a far different sense from that of *actus in linea essendi*, so it should be recognized that by essence they mean something other than *id cujus actus est esse*. In the case of both concepts, they are considering concrete states and phases of the *res naturalis* rather than the metaphysical principles of being. To create one's essence freely means in this context to realize one's capacity for perfection to the fullest. This is far removed from the autoproduction advocated in a strictly ontological way by absolute idealism.

But it then becomes difficult to see how a complete theory of being is possible from the standpoint of existentialism. Troisfontaines wisely observes that the way of subjectivity can complement but can never supplant the way of objectivity in philosophical studies.

What has caused so much confusion in the common estimate of philosophy of existence is the fundamental divergence between thinkers like Heidegger and Jaspers in Germany and Sartre and Marcel in France. There are in fact two broad currents of contemporary existentialism. Atheistic existentialism has made the deliberate choice of treating human existence as enclosed in the world without any final hope for deliverance from an absurd or nihilistic situation. In Sartre and Camus, this stand is professedly and actively anti-Christian, for they recognize that there can be no peace between a world of charity and grace and a world of revolt and heroic despair. But another reading of the human condition is offered by those who make room for the claims of transcendence. Gabriel Marcel has explored the meaning of fidelity, communion, and hope in a direction which Troisfontaines is correct in taking as *a* legitimate way of philosophizing about existence. Without making immoderate claims for this kind of existentialism, he sees that it has a rightful place in any total statement of human wisdom. This booklet should encourage the study and further development by Christian thinkers of the great themes which existentialism is recalling to the attention of philosophers today.

James Collins

St. Louis University

Au Souffle de l'Esprit Createur. By Paul Vignon. Beauchesne, Paris, 1946. Pp. 202.

In a world in which one is constantly confronted with dicta of scientists and pseudoscientists to the effect that scientific discoveries all point toward some purely materialistic interpretation of reality, it is refreshing and encouraging to hear from a scientist of unquestioned authority that these same data, less superficially considered, rather constitute a powerful proof of the existence and continued influence of a Supreme Being, the cause of the material world, living and nonliving which furnishes such a rich field for the research of the scientist. *Au Souffle de l'Esprit Créateur* is the last work of a great modern scientist (Paul Vignon held for many years a Professorship at the Institut Catholique de Paris) whose scientific research has made him an apologete to be reckoned with. We have here no mere borrowing of facts by one who has a point to prove, but the experimenter himself, drawing the necessary conclusions from his own observations. For

Paul Vignon, the scientist's curious wonder at the marvel of the things about him has led beyond a knowledge of those things to a knowledge of Him who is their cause, and his wonder has become reverent, humble, enthusiastic.

Materialism is essentially a *simplisme*. Its mechanistic explanation of the marvels of the universe is far too facile to do the universe justice. Man, the animal world—especially that of the microscopic organisms—and the world of plants are continually surrendering to the eager scientist, helped as he is by more perfect instruments, ever deeper secrets of their marvelous complexity, secrets which are increasingly impossible to classify according to a materialistic plan or to squeeze within the narrow limits of mechanistic laws. Each new discovery adds its voice to the chorus of living things clamoring that above and beyond them there is a Power, a Cause, a Being on whom they depend for their existence and for their activity. This is the theme of *Au Souffle de l'Esprit Créateur*.

After a preface by Paul Claudel, written in the beautiful style so appreciated by those familiar with the writings of this great member of the Académie Française, an introduction by the author declares the purpose of the present work, developed in the two parts of the book. The first part, a physical and metaphysical analysis of the living being, shows how the activity characteristic of man, animal, and plant resist all materialistic and mechanistic explanation. The second part, entitled "The Divine Call to Existence," shows that these same characteristics in animal and plant necessarily indicate the fact of creation, while in the case of man there is in addition a call to a life which is transcendent. The last twelve pages are given to extracts from two of the author's works, the one a scientific explanation of the phenomena of the Sacred Shroud of Turin, the other an introduction to experimental biology.

Au Souffle de l'Esprit Créateur is the work of a Catholic, a scientist, a Frenchman. The combination is a hard one to describe, especially to an English-trained reader. The scientific exactness and authority—noticeable especially when the subject is the author's specialty, the microscopic animal world—is vivified and elevated by the reverent insight of the Catholic who sees in the facts he proposes the "finger of God" active throughout it all. There is a definite touch of mysticism. The whole is presented in a style typically French, with its nervous, staccato progression and its vivid—for the English mind too vivid—expressions. For one little acquainted with the French language and the French mentality this book would make very hard reading indeed; and there might even be the impression that the author's

enthusiasm and wonder at the activity and order evident in the lives of animals and plants leads him to ascribe to them the power of intelligence.

CHRISTIAN L. BONNET, S.J.

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A PHILOSOPHY OF POETRY BASED ON THOMISTIC PRINCIPLES. By the Reverend John Duffy, C.SS.R. The Catholic University Press, Washington, 1945. Pp. xi + 258. $2.75.

St. Thomas said very little about poetry. Yet he did incorporate into his philosophy a science of beauty and a theory of art. These have been studied and developed, notably by M. Maritain. The present work, a dissertation submitted for the Ph.D. degree at the Catholic University, at once sticks closer to the Thomistic texts and discusses at length the causality of poetry. It is the most complete treatment of its subject that we have seen.

The study falls into three parts: I, the nature of beauty; II, the nature of a fine art; III, the nature of poetry. The beautiful as such properly belongs to ontology and has therefore been studied by philosophers in the course of their ordinary work. Father Duffy does not hesitate to describe beauty as a transcendental attribute of being. On this point there has been some disagreement.

Part II begins with a chapter on the psychology of art, followed by one on the metaphysics of art, both well done and close to the Thomistic texts. The emphasis on art as the representation of an intentional form obviates the misplaced insistence on the idea of beauty which has produced so much mawkish art and "criticism." Even the expressionists seem justified: "Unde videmus quod aliqua imago dicitur esse pulchra, si perfecte repraesentat rem, quamvis turpem" (*ST*, I, 39. 8 ad 1). Father Duffy: "It is nothing to the point to call an artifact imperfect because what it expresses is imperfect. In the order of a beautiful artifact as such, its whole being is the expression of what the artist contemplates" (p. 139).

Part III, "The Nature of Poetry," which rightly occupies half of the book, is the most interesting and original section in the volume. It has always proved difficult for the philosopher to assume the role of the artistic creator, who works with particulars and makes a thing, not an idea. Father Duffy is not afraid to grapple with the efficient causality of poetry, a phase of the subject that is too often slighted by Thomistic aestheticians; and here he draws on his own experience as a writer of poetry, to good effect. He is again most practical when he suggests that "for a real grasp upon the meaning of the poet's operative knowl-

lge nothing could be better than an intelligent study of the various rafts of a poem." The chapter on "The Operative Word" is to be pecially recommended. Here Robert Frost is drawn upon, both as oet and as theorist. Father Duffy refuses to be trapped into an easy tellectualism:

> Our effort has been to see in what terms the "intuitions" of the poet's mind in creating may be somewhat explained through an analysis of all the possible factors concerned. And we conclude that these intuitions are finally reducible to a great complexity of rapid subliminal inferences, beginning from habits of association, and obscurely guided by the intellect, the will, and the emotions . . . (p. 182).

Nor does he formalize the matter-form principle, as superficial writers f treatises on poetry and criticism are wont to do. He insists, too, n the particularity of the artist's work. (Here, some consideration of . M. Hopkins.) He is acquainted with the writings of the semanticists nd gives them due attention, at the same time criticizing their addiction psychology as the end and test of art. "The beauty of a poem," he rites, "consists in the perfection with which it mirrors the real as nder intentional existence, or, in a word, the perfection of meaning. And thus its being is intentional being" (p. 210). "Its relational eauty is the splendor of meaning" (p. 214).

The book is orderly and thoughtful, though some of the phraseology eems awkward and is in places over-condensed in expression. There s an index. A detraction from the work is the bad proofreading, a ault we have noticed in more than one Catholic publication. The ibliography seems, in view of the wealth of recent writing on beauty, rt, and poetry, a trifle meager; it is, however, well selected. In a field where good textbooks are rare, this would do admirably.

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SPINOZA: PORTRAIT OF A SPIRITUAL HERO. By Rudolf Kayser. Translated by Amy Allen and Maxim Newmark. With an Introduction by Albert Einstein. Philosophical Library, New York, 1946. Pp. xix + 326. $3.75.

A careful reading of this book has revealed to me no good reason for its publication in America. Although the publisher has not informed his readers about the fact, the book first made its appearance in Germany in 1932 under the title *Spinoza: Bildnis eines geistigen Helden.* It was one of a great number of works which were written to commemorate the Spinoza tercentenary. Kayser's volume was among the least distinguished of these memorials, and it does not seem to fill

any need of American readers today. Not being a philosophical stu of Spinoza, it provides no supplement to the works of Martine McKeon, or H. A. Wolfson. Even as a biographical and inspiratio approach, it adds nothing to what was said in 1932 by Wolfson a Lewis Browne. If a genuine contribution had been intended, th the publisher might well have followed the lead of an enterpris Argentine firm in making Carl Gebhardt's masterful commemorati volume available to those who do not read German.

The translators have been fairly successful in their work. Howe there are numerous errors, misprints, and inconsistencies which sho not have been allowed in the American version. Spinoza's early p appears in these pages now as "Caesarius" (p. 142), now "Casearius" (p. 195). Michael Despinoza both outlives his third wi (p. 63) and precedes her to the grave (p. 43). Hudde's given na fluctuates uneasily between "Johan" (p. 143) and "Johannes" (p. 11 Spinoza's work on Descartes is constantly referred to as "Principles Descartes Geometrically Demonstrated" (pp. 195, 197). The *Cogit Metaphysica* is presented as a kind of simplified summary of the *Princ* which at times favors the "younger" (p. 198, *sic*) Scholastic philosop The title of A. Léon's French work on Spinoza is compressed bey recognition (p. 325). Father Dunin-Borkowski is disconcertin spoken of as two distinct Spinozistic authorities (p. xiii), while we left in doubt whether Professor Einstein believes in a "casual" (p. or a "causal" (p. xi) interpretation of phenomena by science. In a case, it would seem that for Einstein causal and nonfree must be tak as synonymous, since freedom is an escape from all causality. We lea with some surprise that Professor Woodbridge's initials are F. I. (p. 320), that the Jesuits are a group of secular priests (p. 31), that Church holds God to be corporeal (p. 293), and that the Scholast taught (an Averroistic version of) the doctrine of the two truths (p. 8

An excellent up-to-date bibliography is provided, although there is index. It is unfortunate that the caution and accuracy of these acknow edged authorities on Spinoza were not reflected in this book. In th case we should not have been told that Spinoza was a mystic (p. 8 and an ascetic (p. 106), that he unquestionably read Giordano Bru (p. 71), that thought and dimension are the divine attributes accordin to Spinoza (p. 295—a translators' error), and that Lessing was th first in Germany to re-experience the attractiveness of Spinoza's thoug (pp. xvii, 317). The list could be lengthened. It would not be profitabl to examine here the author's wider presuppositions on the nature o dogma, the meaning of the Religious Revolution, the democratic liberal

of Jan de Witt, the spirit of northern baroque culture, and other ng conceptions which color this strained and unreliable account of life of a great philosopher.

JAMES COLLINS

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ILOSOPHIE DE L'ETRE. By Louis de Raeymaeker. Institut Superieur de Philosophie, Louvain, 1946. Pp. 394.

Louis de Raeymaeker writes that

> it is an undeniable fact that somehow mind holds within itself all reality, since everything can find a place in the transcendental perception of the self. The unity of all things is undeniable. The principal problem of all philosophy, then, is to explain this unity. And it is in the solution of this metaphysical problem that the fundamental disagreements of systems lie.

This perhaps is nothing startling to the professional philosopher, I think the history of the problem as presented by the author in present volume is remarkably well done. His own solution follows lines of his interpretation of St. Thomas's metaphysics. Granting, I think we must, that general metaphysics has as its proper object fundamental explanation of all being considered together, we must, De Raeymaeker thinks, grant that metaphysics deals with the nscendental idea of being, the content of which idea is both universal l concrete. The content ought to be universal because human expe- nce, being limited, cannot experience all of that which is; it ought e concrete lest we run the danger of neglecting the individuality and stence of things and, consquently, be oblivious of reality in the very ness of being.

The idea of being, according to De Raeymaeker, corresponds to these ditions: it arises in the soul because of sense experience; it transcends experience by reason of its very definition. By this idea we know permanent, absolute reality which our own existence as well as that the objects envelop within themselves. We are conscious that this lity of being, by reason of its absolute character, ought to envelop l penetrate all things. This is the reason why we attribute being, l attribute it formally, to all things.

In the very act of judging a concrete object to possess being we are are of the transcendental character of the idea of being: that it is iversal as well as concrete. Consequently, metaphysics does not consist a study of abstract essences, in an *essentialism,* for then it would never e an account of the concrete. Under the influence of a Platonic ilosophy, antiquity and the Middle Ages have sacrificed existence to straction. And modern philosophy has not been successful in damming

this current of metaphysics: in our times many of the idealistic philosophies have striven in vain to construct a metaphysics of the real from abstract principles.

In some respects, *existentialism* is a reaction to this philosophy of essences. It wishes to begin with existents and to remain in contact with the concrete in its metaphysics, by means of the consciousness that each possesses of his own individual existence, of his life and acts. But generally the reaction is insufficient. Doubtless, the existentialists have presented phenomenological descriptions of conscious life in its act of apprehending being, and these descriptions are not without interest; but their observations seem to be so closely related to the *conscious self* that one is forced to ask, How is it possible to draw conclusions about being in general from these? Some existentialists, like Jaspers, say that one's own existence is applicable to all being; others, like Heidegger, wish to construct a metaphysics but do not clearly see how it is possible to pass from self-existence to the existence of others.

The solution of the problem of the essentialists and the existentialists is to be found in the internal structure of the individual which is composed of essence and existence, matter and form, and in the dependence of the internal structure upon the Absolute Being, the infinite source of participation and the sole principle of the order of being. The internal structure of particular beings constitutes the metaphysical foundation of the existence in the order of reality: their internal relativity is reflected in their external relativity. Each particular being possesses no absolute independence, for it is always a part of the order of being. This is the reason an internal structure is always found within beings that exist only by participation (the relation of existence to the mode of being); and this internal structure of being always implies another relation in the mode of being (the relation of the substantial mode to the accidental modification of being). In the very nature of the transcendental idea of being, then, we have the reason for the universal as well as the concrete, which reason is verified in the very act of judgment about a concrete existing thing.

The general lines of a general metaphysics must be founded upon this reasoning: particular beings are subsistent, and so they possess the nature of being; but in a particular order they possess being as relative to one another, and in the entirety of their order they exhaust that being. However, each being is a whole, while at the same time it is a relation. Thus each being participates in being. The internal structure of each, which constitutes it a totality and a relation to another, is expressed by an external relation. And if they are relative to each other

l express a participation in being, it can only be because particular ngs must be related to the Absolute Being in whose perfection of ng they participate.

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E Source of Human Good. By Henry N. Wieman. The University of Chicago Press, Chicago, 1946. Pp. vii + 312. $3.50.

In the light of present world events there is perhaps no problem ose solution is more important than the problem of what constitutes n's true good. For wars are fought precisely because of divergent losophies of human good; and peace conferences must obviously have mind some theory of good on which they may strive to base a new rld polity. Mr. Wieman is to be commended, therefore, for the neliness of his subject.

It is precisely the importance of the problem, however, that makes solution all the more disappointing. If there is to be any meaning the distinction between good and evil, if we are justified in hanging zi leaders and in condemning Dachau as an abomination in the sight humanity, there clearly must be some objective basis for a statement what is good and evil for human beings. Mr. Wieman, of course, ims objectivity for his statement; but he offers no grounds for it.

The good is the object of desire, and man possesses a desire for a good at is infinite. This desire is not something attributed to man by particular philosophy; it is the basic experiential fact about man at must be taken into account in any theory of human good. The cise nature of this good must be determined from an analysis of n's nature. How else can we learn what is the *human* good? Any ner mode of determining it is subjective and will bear the fruit of jectivism.

Mr. Wieman asserts that human good—"created good"—is "qualita- e meaning" which seems to be reducible to the emotional and intel- tual enrichment of man, with the emphasis on the former, since by far e greater part of qualitative meaning is attainable only by "non- gnitive feeling-reactions" (p. 174). This good is caused by the reative event" which consists in communication with others so that e's self is enriched, in integrating and expanding one's self and communicating one's gains. The author applies his theory to the alms of beauty, truth, knowledge, morals, and religion.

Such a "human" good is arbitrarily chosen; it has no claim to objec tivity in man's nature, and it does not respect the basic experientia facts about man. The author even admits that this good is attainabl in any great degree only by a talented few. It certainly, then, has n right to be called the properly human good.

The author is indeed forced into his subjectivist position by th positivism and relativism he adopts in the realms of truth and moral (cf. chapt. 7 and pp. 225-27) and by the Kantian theory of causality set down in the opening chapter and the consequent denial of a transcendent God; for to deny a transcendent God is to make man and his desire for an infinite good an unintelligible contradiction.

This book represents, in brief, the old gospel of sentimental humani tarianism under the aegis of the "newer naturalism." This gospel ha never been satisfying from a speculative viewpoint; it is more than ev unsatisfying from a practical viewpoint.

MATTHEW J. O'CONNELL, S.J.

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SOVIET PHILOSOPHY, A STUDY OF THEORY AND PRACTICE. By John Somerville. Philosophical Library, New York, 1946. Pp. xvi + 269. $3.75.

This book was written to fulfill what the publishers refer to as "o urgent need for a clear account of the philosophic principles basic to th Soviet regime." To some extent it achieves its purpose. Dr. Somervill spends the greater part of his time discussing the social and politica outlook in the U.S.S.R., and he devotes only three chapters to philosophy proper. In these chapters he shows what slight modifications have be effected in Marxism by official Soviet philosophers, dealing chiefly wit the two subjects of dialectical materialism and dialectical epistemology The official Soviet view is presented in contrast with the "static" philosophy of the Western World—and in this presentation Dr. Somer ville seems to defend the "dialectical" philosophy more frequently than merely to present it.

The chief value of the book, apart from its popular explanation of "dialectical" philosophy to the average reader, is the excellent last chapte on reading. Here Dr. Somerville neatly summarizes the official writ ings, both the original Russian writings and their translations (when the have been made) in the fields of ontology, methodology, epistemology social philosophy, ethics, and esthetics.

THOMAS P. NEILL

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